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In the Supreme Court of the United States

OCTOBER TERM, 196[illegible]

FEDERAL TRADE COMMISSION, PETITIONER

v.

EVIS MANUFACTURING CO., ET AL.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

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In the Supreme Court of the United States

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v.

EVIS MANUFACTURING CO., ET AL.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

The Solicitor General, on behalf of the Federal Trade Commission, prays that a writ of certiorari issue to review the judgment of the Court of Appeals for the Ninth Circuit entered in the above cause on March 5, 1961.

OPINION BELOW

The opinion of the Court of Appeals (App. A, *infra*, pp. 19–54) is reported at 287 F. 2d 831. The findings and order of the Federal Trade Commission are printed as Appendix B, *infra*, pp. 55–77.[1]

JURISDICTION

The judgment of the Court of Appeals was entered on March 5, 1961 (App. C, *infra*, p. 78). On May

[1] The record was not printed in the court below. We shall refer to the typed transcript certified to this Court by using a Roman numeral (to indicate the volume) followed by an Arabic numeral (to indicate the page), *e.g.*, V, 1–16.

26, 1961, Mr. Justice Douglas extended the time for filing a petition for a writ of certiorari to and including June 19, 1961. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

QUESTION PRESENTED

The Federal Trade Commission, in finding that respondents had misrepresented the capabilities of their "water conditioner," accepted expert scientific testimony that the device could not do what was claimed for it, in preference to testimony of users that the device had performed in accordance with the claims. The court of appeals set aside the finding of misrepresentation as unsupported by substantial evidence, primarily on the ground that the Commission should have rejected the expert testimony because in testing the device the experts had failed precisely to follow the manufacturer's operating instructions (a factor which the Commission had considered). The question presented is whether the court of appeals exceeded the proper bounds of judicial review by substituting its evaluation of the evidence for that of the Commission.

STATUTE INVOLVED

Section 5 of the Federal Trade Commission Act, as amended by the Act of March 21, 1938, 52 Stat. 111, 15 U.S.C. 45, provides in part as follows:

> (*a*) Unfair methods of competition in commerce, and unfair or deceptive acts or practices in commerce, are hereby declared unlawful.
>
> * * * * *
>
> (*c*) Any person, partnership, or corporation required by an order of the Commission to

> cease and desist from using any method of competition or act or practice may obtain a review of such order in the circuit court of appeals of the United States, within any circuit where the method of competition or the act or practice in question was used or where such person, partnership, or corporation resides or carries on business * * *. The findings of the Commission as to the facts, if supported by evidence, shall be conclusive. * * *

STATEMENT

Respondents' product, advertised and sold as a water conditioner, is a piece of cast iron or bronze pipe having the appearance of an oversized coupling with a cross-post integrally cast inside. Designated the "Evis Water Conditioner," the device is supposed to have certain beneficial effects on water when fitted into industrial or domestic water systems. On February 5, 1954, the Federal Trade Commission issued its complaint charging respondents with unfair methods of competition and deceptive acts or practices by falsely representing that their product was made of a specially processed metal which had a catalytic effect on water passing through it so that the physical behavior of the water is changed in many beneficial ways. Among other things, respondents claimed that their "conditioner" would solve hard water problems, make hard water soft, improve the taste of coffee and food, save soap, remove grease, prevent scale, eliminate rust stains, leach out alkalies and salt from the soil and improve its texture, promote the growth of agricultural products, and reduce the evaporation rate of water so that

Evis-treated water would greatly decrease irrigation requirements (App. B, *infra*, pp. 59–60).

At the hearing, 21 highly trained expert witnesses with extensive engineering or scientific backgrounds[2] testified with respect to a wide variety of scientific tests and studies made with respondent.' product. These included spectroscopic and chemical analyses of the composition and structure of the device itself as well as tests and experiments with Evis-treated water. The experts' unanimous conclusion, based upon the tests which are recognized as standard and acceptable methods for the analysis of water (V, 3957–58), and upon their own scientific knowledge, was that the Evis device would have none of the claimed beneficial effects on water (App. B, *infra*, pp. 68–70).

The respondent Wells, who is neither a chemist nor a licensed engineer but who "invented" the Evis pipe, admitted that his device does not cause any chemical change in water (II, 415). He further conceded that it leaves unchanged all the measurable physical char-

[2] Representative of the Commission witnesses were the following: Dr. James I. Hoffman, Chief of the Surface Chemistry Section and Assistant of the entire Chemistry Division of the National Bureau of Standards, an eminent chemist with a wide experience in the field of water treatment (III, 1115–16); Dr. Lowell E. Allison, a soil scientist at the United States Salinity Laboratory of the United States Department of Agriculture; Hugo De Bussieres, a chemical engineer of some 30 years' experience, retained by the Better Business Bureau of San Francisco to test the Evis device (II, 476–77); Dr. Robert C. Weast, Associate Professor of Chemistry and Chemical Engineering, Case Institute of Technology (III, 983–85); and Dr. L. B. Johnson, Jr., a member of the staff of the Engineering Experiment Station, University of Virginia.

acteristics, such as specific gravity, boiling point, viscosity, surface tension, and density (II, 435, 436, 468). He asserted, however, that special processing, the nature of which he refused to reveal on the ground it was a trade secret, adds elements to the metal in the pipe which produce the claimed results (II, 424–428).[3] He was unable to explain how the "elements" work or to offer any scientific law or principle to support his claim that the difference in Evis-conditioned water can be detected "along the lines of the phenomenon" (II, 468).

Respondents presented 91 consumer or user witnesses, none of whom qualified as expert witnesses but some of whom were "operating engineers." They testified that they had purchased and installed Evis conditioners in various water systems and that the device performed exactly as the respondents claimed it would (App. B, *infra,* pp. 76–77). Respondents' only scientific evidence related to a series of tests conducted under the supervision of Howard Frantz, a chemist (IV, 2500–02). Three types of tests were performed: (1) a washing machine test to check cleansing ability of Evis-treated water and the amount of soap it required (IV, 2503–07); (2) a soil test to determine the amount of salts and alkalinity in Evis-treated soil (IV, 2516–17, 2518, 2852); (3) standard chemical tests to determine the degree of hardness (that is, presence of calcium deposits) of Evis water (IV, 2523, 2856–57, 2869). Although Frantz stated

[3] The Evis pipe is neither magnetized nor radioactive and does not contain any electrodes (II, 468). Spectroanalysis did not disclose the presence of any added elements (II, 424).

that the Evis-treated water produced better results in some of the tests than non-treated water, he refused to attribute the results to the Evis conditioner (IV, 2803, 2806, 2817). Respondents also presented the testimony of a chemical engineer who conducted no tests himself, but who intimated that the Evis device could work (IV, 2955–2977, 2985–3032, 3045–3050).

On April 27, 1956, the hearing examiner dismissed the complaint on the ground that the allegations were not supported by reliable, probative, and substantial evidence (I, 512–547). On appeal, the Commission vacated the initial decision and remanded the case to the examiner with instructions to receive evidence of further scientific tests (I, 654–655). Such further tests were conducted, and they also showed that the Evis device would not produce any beneficial effects on water (App. B, *infra,* pp. 56, 70).

The hearing examiner again dismissed the complaint (I, 692–732). He held (1) that the various tests conducted by the experts had not been made in strict conformity with the respondents' testing instructions * and had not been performed under conditions comparable to practical use; (2) that the testimony of 91 satisfied users was compelling; and (3) that inasmuch as respondent Wells' testimony about the "secret process" had not been contradicted, there was a "possibility" here "of the first practical application of a

* The hearing examiner, while crediting the user testimony, said that "any intelligent person with an open and honest mind * * * might successfully and fairly test the operation of the Evis Conditioner" (I, 730).

device operating upon a principle heretofore unrecognized by present-day science" (I, 731).

The Commission vacated and set aside the examiner's decision, made its own findings of fact, and entered a cease-and-desist order (App. B, *infra*, pp. 55–64, 77).[5] It held that "reliable, substantial and probative evidence" showed that "the Evis Water Conditioner will not perform as claimed" (*id.* at 75), and that the examiner erred in rejecting the scientific testimony because of alleged deficiencies in the testing procedures. The Commission pointed out that the tests performed by the expert witnesses were the "usual" laboratory tests for the analysis of water (*id.* at 66, 67) and that respondents, by refusing to reveal the secret process of the device, had failed to show the need for any particularized procedures (*id.* at 71, 75). It also stated that, although "not all of the experimenters followed instructions for installation in every particular,"[6] it did not follow that "a substantial part of the scientific evidence should be largely discounted for such a reason" (*id.* at 70). The Commission pointed out (*id.* at 70–71) that—

> the "instructions" have varied from time to time and apparently are not all contained in any one document. A step indicated as essen-

[5] The Commission dismissed, as unproved, the charge in the complaint that respondents had misrepresented that the conditioner was made of specially processed metal (App. B, *infra*, p. 74).

[6] In at least one series of tests, those conducted by Dr. Johnson, seven Evis pipes were employed and each was installed in accordance with the then current instruction sheets (V, 3790–92).

> tial in one instruction sheet, for example, may not even be mentioned in another. * * * Moreover, respondents' witnesses who testified as to claimed beneficial results, admitted in many instances that no particular instructions were followed. Also, respondents in their literature suggest that Evis treated water can be procured simply by running tap water through the Evis Water Conditioner, the implication being that an elaborate hookup is not essential.[7]

The Commission likewise pointed out (App. B, *infra*, p. 71) that many of the government's experts testified that they did not follow all of the manufacturer's instructions because, in their expert opinion, the instructions were irrelevant to the particular test they were making and could have made no difference in the results.[8]

The Commission noted that respondents had presented testimony by a number of users who had obtained beneficial results with the Evis conditioner (*id.* at 76). While some of these witnesses had "testified about observing results in parallel practical experiments, it nevertheless appears that the observations were not of tests under scientifically controlled conditions. Any one of a number of factors not connected with the Evis Water Conditioner could have caused

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[7] The president of the corporate respondent had stated: "The plumber who installs the Evis unit will usually place it so the water flows in the direction of the arrow although if he should make a mistake it would make no difference" (VI, 905).

[8] One of the recommended tests was to try the "feel" of two specimens of dirt or soil, one mixed with Evis water, the other with untreated water. The Evis specimen was supposed to feel "smooth, slippery, disintegrated" (VI, 828, 879).

any differences which may have been noted" (*ibid.*).[9] Since the scientific evidence "almost entirely supports the allegations of the complaint [t]he user evidence, in these circumstances, is of relatively little value" (App. B, *infra*, p. 77).

The court of appeals held that the Commission's findings of misrepresentation were not supported by substantial evidence, and set aside the order. It ruled that the "opinions of the experts * * * were the results of tests made in disregard of the instructions of the manufacturer as to tests and as to installation of Evis units * * * and * * * such tests in themselves and standing alone cannot be considered as substantial evidence" (App. A, *infra*, pp. 50–51). The court also held that the Commission erred (1) in relying on a statement by counsel for the respondents that, if called, some 3,000 users of the device would testify that it was unsatisfactory (*id.* at 33–40), and (2) in concluding that respondents' refusal to disclose the alleged "secret process" of their product strongly confirmed the allegations of the complaint (*id.* at 50). In these circumstances, the court concluded, "[t]he Commission erred in disregarding the testimony of the user witnesses" (*id.* at 54).

REASONS FOR GRANTING THE WRIT

This case presents an important question concerning the proper scope of judicial review of administrative findings of fact in cases involving frauds upon consumers. The question is whether the Federal

[9] The respondent Wells admitted that a change in the salt content of water could, in a few days, cause the discharge of scale deposits accumulated over several months (II, 460).

Trade Commission, in determining the capabilities of a product, may accept expert scientific testimony, after making its own appraisal of the criticisms of the experts' tests, or must be governed by the testimony of satisfied customers. In the instant case the Commission accepted the experts' testimony in preference to the opinions of lay users because of the substantial unanimity of a large volume of scientific opinion. It rejected the criticisms of the experts' tests based upon their failure to follow the manufacturer's instructions, because there was evidence showing that the instructions which were disregarded could not have affected the tests and were not even regarded as important by the manufacturer. The court of appeals held that under these circumstances the expert testimony was not sufficient evidence to support the Commission's findings and that the testimony of lay users controlled. We submit that the court thereby substituted its judgment for that of the Commission upon a matter committed to the agency's discretion, thus violating established principles concerning the scope of judicial review.

1. The question is important because the evaluation and weighing of expert scientific opinion versus the testimony of lay users is a recurring problem in preventing consumer frauds. The ability of skillful promoters to produce evidence of satisfied customers is a familiar psychological phenomenon, be the product a cure for arthritis, a remedy for baldness, or, as in the present case, a device for improving water. In such cases the Commission must carefully scrutinize, in the light of the entire record, both the testimony of the

lay users and the evidence of experts based upon scientific investigation. It would be seriously handicapped by the imposition of artificial rules such as that scientific tests cannot be given weight, although otherwise valid, unless they conform exactly to the manufacturer's instructions; or that the Commission must give controlling weight to the testimony of lay witnesses. The decision below imposing these rules will make it more difficult for the Commission to protect the public against sales of dubious devices based upon extravagant claims that fly in the face of scientific facts.

2. The court below plainly erred in holding that the expert testimony in this case did not constitute substantial evidence to support the Commission's findings of misrepresentation. The manner in which the experts had conducted their tests had been challenged, and in holding that their tests were proper the Commission took full cognizance of the alleged deficiencies in the testing procedures. See the Statement, *supra*, pp. 7–8. It pointed out that many of the government's experts had testified that they had not followed the manufacturer's instructions because such instructions were irrelevant to, and could not affect the outcome of, the particular tests they were making. The Commission also noted that the manufacturer's instructions were themselves inconsistent; that the manufacturer had suggested in its sales literature that an elaborate hookup of the Evis conditioner was not essential; and that many of the satisfied users themselves had not followed the instructions. The Commission concluded that, because of these factors, the

fact that "not all of the experimenters followed instructions for installation in every particular" did not call for rejection of the scientific evidence, which "almost entirely supports the allegations of the complaint" (App. B, *infra*, pp. 70, 77).

The significance of the failure to follow the manufacturer's instructions in making tests was itself a question of fact to be resolved upon the evidence. Here there was testimony, which the Commission found persuasive, showing that the instructions which were disregarded could not affect the tests. The manufacturer itself apparently did not regard the instructions as important. In these circumstances, the weight to be given the alleged deficiencies in the tests was just as much a question of fact committed to the Commission's expert judgment as the weight to be given to the expert testimony itself.

The court of appeals, however, neither referred to nor discussed the Commission's detailed explanation of why the non-compliance with the manufacturer's instructions in certain particulars did not vitiate the experts' conclusion. Instead, it stated (App. A, *infra*, p. 52) that "no reason is given for the failure to heed" "the manufacturer's instructions"; and it ruled (*ibid.*) that "the persistent disregard of the instructions weakens and in great measure nullifies the value of the Commission's scientific evidence." On its face, therefore, the opinion shows that the court disregarded the Commission's evaluation of the evidence and, on the basis of its own weighing of the record, concluded that the expert testimony was unreliable.

The reviewing court may not "make its own appraisal of the testimony" (*Federal Trade Commission* v. *Algoma Lumber Co.*, 291 U.S. 67, 73; see *Federal Trade Commission* v. *Standard Education Society*, 302 U.S. 112, 117); its function is limited to ascertaining whether the Commission's appraisal of the testimony has substantial support in the record. Here, the Commission's findings plainly are supported by substantial evidence, and the court below improperly encroached upon an area committed by law to the agency when it substituted its evaluation of the expert evidence for that of the Commission.

3. The court of appeals also invaded the agency's function by ruling upon the weight to be given to the user-testimony. The evaluation of such lay testimony, like the evaluation of expert testimony, is committed to the agency's discretion. The court of appeals did not discuss the Commission's evaluation of the lay testimony. Instead, it merely quoted a passage from the examiner's opinion that favorably evaluated such testimony, and then concluded: "The Commission erred in disregarding the testimony of the user witnesses" (App. A, *infra*, p. 54).

The Commission, of course, did not "disregard" the user-testimony. It noted that the scientific opinion that the device could not achieve the results claimed for it was virtually unanimous, and that the lack of any scientific testing controls in the user tests meant that the observed results might have resulted from factors other than the device. In these circum-

stances, it concluded that the user-testimony was of "relatively little value" (App. B, *infra,* pp. 76–77). In rejecting this conclusion, the court below again improperly substituted its judgment for the agency's in weighing the evidence.

In this respect, the action of the court below is subject to the same infirmity as its action in *Sewell* v. *Federal Trade Commission,* 240 F. 2d 228 (C.A. 9). There, the Commission had accepted expert medical opinion that a shoe insert which allegedly eliminated foot pains and resulted in better posture did not produce such results; and it had rejected lay user-testimony that the device had had the claimed beneficial results. The Ninth Circuit set aside the findings, on the ground that "[w]e do not think the doctors' opinion and their few case histories of failure of the device overcome the proof of frequent successful use" (p. 231). This Court, citing the *Algoma Lumber* and *Standard Education* cases, *supra,* summarily reversed and remanded with directions to affirm and enforce the Commission's order. *Federal Trade Commission* v. *Sewell,* 353 U.S. 969.

4. The court of appeals held that the Commission had further erred in allegedly relying on two other items: an admission by respondents' counsel that the Evis conditioner had not worked for a substantial number of customers, and respondents' failure to offer any explanation of how their device accomplished the claimed result. Even if the court were correct in these rulings, that would not justify re-

versal of the Commission's order. For the court itself pointed out (App. A, *infra,* p. 50) that the effect of these rulings was that "[w]e are left then with the opinions of the experts as the only evidence in the record tending to support the findings and conclusions of the Commission * * *." As we have already shown, this expert evidence does constitute substantial evidentiary support for the findings and the court's rejection of such evidence was palpably erroneous.

In any event, these two rulings of the court of appeals were incorrect.

a. During the course of the Commission hearing, counsel for respondents admitted that, of some 100,000 purchasers of the Evis device, probably 3,000, if called, would testify that the Evis system did not work. In a passing reference to that statement, the Commission said (App. B, *infra,* p. 67): "The evidence received in support of the complaint includes a showing that 3,000 installations of the Evis Water Conditioner were failures (by virtue of an admission of counsel), but, *more important,* a considerable showing in the form of testimony and other evidence covering studies, experiments and tests of the device." (Emphasis added.) Contrary to the court's statement, the Commission did not consider the statement "a complete refutation of the testimony of [respondents'] 91 'user witnesses' " (App. A, *infra.* p. 25) and its order does not "largely rest * * * upon

that error" (*id.* at 40). In its opinion, the Commission did not even suggest that it considered the statement an "offset" of the customer testimony; it rested its order squarely on "[t]he scientific evidence in the record [which] almost entirely supports the allegations of the complaint. The user evidence, in these circumstances, is of relatively little value" (App. B, *infra,* p. 77).

b. The respondent Wells, the "inventor" of the Evis conditioner, testified that special processing of the cast iron or bronze metal used in the device added certain "elements" to the metal that enabled the conditioner to accomplish its claimed results. He was unable to explain, however, how these "elements" work or what scientific principle is involved in their operation; and he refused to reveal the nature of the special processing or the identity of the elements, on the ground that this was a trade secret for which a patent application was pending. See the Statement, *supra,* pp. 4–5, and App. B, *infra,* pp. 66–67. The Commission held (App. B, *infra,* p. 75) that respondents' failure to offer any evidence that "might explain the claimed effects of the device on water," where such evidence, if available, would be within their control, "is strong confirmation of the charges in the complaint";[10] and it applied the rule that in such circum-

[10] As indicated *supra,* p. 7, the Commission dismissed the charge that respondents had falsely represented that the pipe had been specially treated. Wells' silence as to the nature of the process was thus not considered as confirmation of that charge, but solely of the charges of misrepresentation as to the effects of the device.

stances the respondents are not "privileged * * * to stand upon [their] refusal to disclose * * * as a trade secret" (*Charles of the Ritz Distributing Corp.* v. *Federal Trade Commission*, 143 F. 2d 676, 679 (C.A. 2); see also, *Mary Muffet, Inc.* v. *Federal Trade Commission*, 194 F. 2d 504, 505 (C.A. 2)).

The court of appeals deemed this principle inapplicable because the government's expert and experimental evidence as to the lack of scientific basis for respondents' claims was contradicted by respondents' user testimony and because respondents, having a patent application pending, had a legitimate excuse for non-disclosure (App. A, *infra* pp. 40–50). But the user evidence introduced by the respondents obviously did not provide a scientific rationale for respondents' extreme claims. In view of respondents' admissions that no recognized chemical or physical change took place in the treated water, together with the mass of scientific data introduced by the government to show that no such results were or could be achieved by the device, the fact that respondents had a pending patent application covering the technique for treating the pipe did not discharge their obligation to produce some scientific or other explanation for the phenomena that allegedly result from the use of their product.

The petition for a writ of certiorari should be granted. In view of the clear errors committed by the court of appeals, this Court may deem it appropriate to grant the writ and reverse without further briefs or argument. See *Federal Trade Commission* v. *Carter Products, Inc.*, 346 U.S. 327; *Federal Trade Commission* v. *American Crayon Co.*, 350 U.S. 907, 352 U.S. 806; *Federal Trade Commission* v. *Sewell*, *supra*.

Respectfully submitted.

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JUNE 1961.

APPENDIX A

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

No. 16,481, March 6, 1961

Evis Manufacturing Company, a corporation, Arthur N. Wells, Petitioners

v.

Federal Trade Commission, Respondent

PETITION FOR REVIEW OF AN ORDER OF THE FEDERAL TRADE COMMISSION

Before: BARNES and HAMLEY, Circuit Judges, and FOLEY, District Judge.

FOLEY, District Judge:

Evis Manufacturing Company, a corporation, hereafter referred to as Evis, and Arthur N. Wells have petitioned this Court to review and set aside an Order made and entered by respondent Federal Trade Commission on the 23rd day of March, 1959, ordering petitioners to cease and desist from making certain specific representations in connection with the offering for sale, sale or distribution of the device known as the Evis Water Conditioner. Said Order was made in a proceeding before respondent Commission entitled, "In the Matter of Evis Manufacturing Company, a corporation, and Joseph T. Voorheis, and Arthur N. Wells, individually, and as officers of said corporation."

On February 5, 1954, respondent Commission issued its complaint charging petitioners with unfair methods of competition and unfair and deceptive acts and practices in commerce in connection with the sale and distribution of the Evis Water Conditioner. Petitioners denied the charges alleged in the complaint and denied any violation of the Federal Trade Commission Act.

After a series of hearings in various places, Mr. Abner E. Lipscomb, Hearing Examiner, duly made and filed, on April 27, 1956, his "Initial Decision" reviewing testimony and evidence received upon the hearings stating his conclusions and his Order dismissing the complaint.

On appeal the Commission vacated said "Initial Decision" and remanded the case to the Examiner for the purpose of receiving evidence of further scientific tests of the Evis Water Conditioner.

Pursuant to the Commission's direction, additional scientific evidence was presented to the Examiner who then filed, on June 30, 1958, his "Initial Decision" after remand, again dismissing the complaint. Upon appeal the Commission reversed the Examiner's second "Initial Decision" holding, however, that there was no probative and substantial evidence of petitioners having falsely claimed that Evis Water Conditioner was made of a specially processed metal.

The Hearing Examiner correctly summarized and stated the gravamen of the Commission's complaint as follows:

The Complaint

> On February 5, 1954, the Federal Trade Commission issued its complaint in this proceeding, charging the Respondents with the dissemination of numerous false advertisements of their product, the "Evis Water Con-

ditioner", in violation of the Federal Trade Commission Act. The Evis Water Conditioner is described in the complaint as a product of metal construction, having the appearance of an oversized pipe coupling with an interior cross post integrally cast in place, which is intended to be fitted into water systems for the purpose of beneficially treating and conditioning water. The complaint interprets various statements and representations appearing in Respondents' advertisements, and, in effect, alleges that such statements and representations, so interpreted, are false, misleading and deceptive, and that, in truth and in fact, the Evis Water Conditioner

"(*a*) is not made of a specially processed metal and it does not change the physical behavior of water passing through it by catalytic effect or otherwise;

"(*b*) will not solve hard water problems or cause hard water to become soft or make hard water feel, taste or act softer or give it a silky-smooth quality for hair, bath, dishes, laundry or car wash;

"(*c*) will not remove or reduce unpleasant odors or flavors in water or make water taste better, nor will it improve the taste of coffee or other foods;

"(*d*) will not reduce the amount of soap used or effect a saving of soap expenses, nor will it effect a saving of fuel expenses for heating water;

"(*e*) will not eliminate or reduce the harshness of water to hands or cause dishes or glassware to dry without leaving water stains;

"(*f*) will not remove grease from drains or prevent or remove scale in boilers, water heaters, pipes, shower nozzles or other parts of a water system;

"(*g*) will not prevent, reduce or eliminate scum, rust stains or corrosion, nor will it retard the pitting of metal;

"(*h*) will not improve the action of chemicals used for water softening purposes;

"(*i*) will not leach out alkali and salts in soil, improve the growth or production of agricultural or orchard products or plants, nor will it improve the texture or structure of soil;

"(*j*) will not reduce the amount of water required for agricultural irrigation;

"(*k*) will not have any beneficial effect on water."

The Commission issued its findings of fact, conclusions and Order, March 23, 1959.[1]

The petitioners, in support of their petition for review, summarized their argument as follows:

---

[1] ORDER:

IT IS ORDERED that respondent Evis Manufacturing Company, a corporation, and its officers, and respondent Arthur N. Wells, individually and as an officer of said corporation, and said respondents' agents, representatives and employees, directly or through any corporate or other device, in connection with the offering for sale, sale or distribution of their product, known as the "Evis Water Conditioner", or any other product of substantially similar design or construction, whether sold under the same name or under any other name, in commerce, as "commerce" is defined in the Federal Trade Commision Act, do forthwith cease and desist from representing, directly or by implication:

That their said product:

(*a*) has a catalytic effect on water;

(*b*) changes the physical behavior of water;

(*c*) will solve hard water problems;

(*d*) will make hard water soft;

(*e*) will cause hard water to feel, taste or act softer, or have any of the attributes or characteristics of soft water;

(*f*) will remove or reduce unpleasant odors or flavors from water;

(*g*) will make water taste better;

(*h*) will improve the taste of beverages or foods;

(*i*) will require the use of less soap;

(*j*) will reduce the cost of heating water;

A. The Commission erred in giving conclusive effect to the testimony of the Commission's experts, in giving no effect to the uncontradicted testimony of the successful performance of the Evis unit in actual operation, and in holding that reliable, substantial and probative evidence supports the charges that the Evis Water Conditioner will not perform as claimed.

B. The Commission erred in failing to give due weight to the decisions of the Hearing Examiner who heard and saw the witnesses and had the better opportunity to evaluate their testimony. His decisions demonstrate the lack of merit in the Commission's case and this Court, on review, should accord to them the weight to which they are entitled.

C. The Commission erred in giving weight to experiments performed by experts whose installations were not made in accordance with the manufacturer's instructions.

(*k*) will eliminate or reduce the harshness of water to the hands;

(*l*) will cause dishes or glassware to dry without leaving water stains;

(*m*) will remove grease;

(*n*) will prevent or remove scale;

(*o*) will prevent, reduce or eliminate scum;

(*p*) will prevent, reduce or eliminate rust stains;

(*q*) will prevent, reduce or eliminate corrosion or retard pitting of metal;

(*r*) will improve the action of chemicals used for water softening purposes;

(*s*) will leach out alkali and salts in soil;

(*t*) will improve the growth or production of agricultural or orchard products or plants;

(*u*) will improve the texture or structure of soil;

(*v*) will reduce the amount of water required for agricultural irrigation;

(*w*) has any beneficial effect upon water.

D. The Commission erred in relying upon what it termed a showing that 3,000 installations of the Evis Water Conditioner were failures.

E. The Commission erred in holding that petitioners' refusal to make a public disclosure of their method of processing the metal in the Evis unit should be construed as strong confirmation of the charges in the complaint.

Respondents state as the fundamental issue the following:

> The fundamental issue in the instant case is the substantiality of scientific proof upon which the Commission relied in concluding that the Evis pipe does not have any beneficial effect upon water, and in ruling that any contrary representations by petitioners are false, misleading and deceptive. This decision was based upon an amazing uniformity of view among the scientists who testified on behalf of the Commission and who had many years of experience in chemistry, physics and engineering, including the more specialized field of water treatment. Their unanimous opinion was that the Evis pipe could not affect water.

In this proceeding to review an Order of the Federal Trade Commission, it is our duty to examine the record as a whole, including decisions of the Examiner, in order to determine whether evidence supporting the Commission's Order is substantial. *Universal Camera Corp.* v. *National Labor Relations Board,* 340 U.S. 474, 496; and *Minneapolis-Honeywell Reg. Co.* v. *Federal Trade Com'n,* 7 Cir., 191 F. 2d 786, 789.

The record is voluminous but our task in discussing the evidence is greatly lightened by the comprehensive Initial Decisions of the Hearing Examiner. The Commission does not challenge the accuracy of his narration of the evidence; it finds fault only with his

evaluation of the evidence and his conclusions therefrom.

EVIDENCE RELIED UPON BY THE COMMISSION

From its opinion and from statements in its brief, it is apparent that in arriving at its findings and conclusions, the Commission relied upon the opinions of 19 experts and a so-called admission that 3,000 installations of the Evis Water Conditioner were failures. The experts' opinions were based upon experiments and laboratory tests performed with the Evis Water Conditioner. The Commission considered the so-called admission, that 3,000 users would have testified that Evis was a failure, as a complete refutation of the testimony of petitioners' 91 "user-witnesses"[2] who had used the device in homes, in industry, and in various types of business.

Arthur F. Tudury, a witness for petitioners, an engineer and operator of an engineering supply business known as Refrigerating and Power Specialties Company, testifying as to the origin and purpose of the manufacturer's instructions, stated that he handled Evis Water Conditioners as an agent or distributor since late summer of 1952;[3] that he had sold or distributed in excess of 18,000 of the Evis units. He said that when he and associates started out with the device, they were under the impression that all that had to be done was to install the Evis in a pipe line and it would remove the scale, and in many cases that proved to be true.[4] The first instructions merely provided for fitting the unit into the main water supply line.[5] After numerous installations, however,

[2] Respondents' Brief, pp. 10, 11, 24.
[3] R. IV 2909.
[4] R. IV 2922.
[5] CX2, R. VI 818.

difficulties appeared,[5] and after twenty, thirty, forty, fifty thousand of the units were operating, troubles began to show up, and investigations disclosed that electrical disturbances in the pipe lines were causing trouble, and that installation of shunting and grounding wires were necessary to make the unit function.[7] He testified it has been the practice of the company to continually modify their instructions as experience was gained in the field.[8]

Mr. Tudury said[9] that 30 representatives of the company from various parts of the United States convened and pooled all of their knowledge of Evis installation and techniques into a bulletin (Petitioners' Exhibit 34 bearing date of its issuance, July 31, 1953), and he testified in response to the question:

> Q. Was the purpose then to have this one bulletin the complete picture of all the installation instructions so that someone completely unfamiliar with the product could then—he would then know everything that you had accumulated over the years with your own experience in the field?
>
> A. That's correct.

Another bulletin, issued about the time that petitioner's Exhibit 34 was issued, contained advice and instructions for the use and testing of the Evis Water Conditioner, among them being:

> The Evis Water Conditioner is designed to improve the quality of water for service in homes, etc.;
>
> It does not add nor take anything from the chemical composition of the water;
>
> Evis is not a softener.

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[5] R. IV 2923.
[7] R. IV 2924.
[8] R. IV 2927, 2928.
[9] R. IV 2931.

It does not change the amount of hardness that is found in the raw water;

Like any other useful tool or instrument, the Evis has its limitations. For example, the Evis action cannot prevent scale in waters which have more than a specified amount of scale forming material;

Evis water must not be mixed with untreated water;

Evis pipeline system must be grounded.

Misguided Tests: Improperly improvised testing procedures have, all too often, resulted in erroneous evaluations of the usefulness of the Evis Water Conditioners, etc.

Practical testing without proper guidance from Evis personnel can yield gloomy results, for the following operational reasons: (Then follows the list of reasons stated.)

The record indicates that instructions for installation of the device were issued from time to time, modified and changed, to meet the result of user experience.

DISREGARD OF THE MANUFACTURER'S INSTRUCTIONS, EXAMPLES

The Hearing Examiner in his Initial Decision after remand, points out instances of disregard of instructions, some of which are the following:

A number of the manufacturer's instructions relative to the installation of the Evis Water Conditioner were not followed by Witness Merrell in its installation. There is some doubt, therefore, as to whether the water referred to, by this witness, as "Evis-treated water" was in fact treated in such a manner as to merit that description. Furthermore, the experiment was conducted in direct contravention of the instructions of the manufacturer of the Evis Water Conditioner that in order to obtain satisfactory results, untreated

and treated water should never be mixed. When interrogated concerning his knowledge of the manufacturer's instructions on this point, he stated,

A. Possibly to obtain the results that the manufacturer claims you should put it on in the position that he states, but to determine results such as I have determined, I don't see that it would make any difference how you put it on.

Q. That is your opinion?

A. That is my opinion.

Q. In other words, in your opinion, you could ignore, for the purpose of this test, the manufacturer's instructions?

A. That is right.

Q. Do you understand the theory upon which Evis operates?

A. No, it has never been explained to me.

Q. So you have no way, then, of determining whether the manufacturer's instructions actually relate to the operation of Evis in any way?

A. That is right.[10]

Q. * * * but in each case where you had Evis treated water you put into the flask untreated water and mixed it with the Evis water, did you not?

A. We put in odor-free untreated water, yes.[11]

Then follows in the record other questions and answers showing disregard of instructions.

On p. 23 of said Initial Decision after remand, the Hearing Examiner's comment on the testimony of Commission's witness Joe Carson Mallory was:

Witness Joe Carson Mallory, a Materials Testing Aid, Harbor Department, City of Los Angeles, testified to a rinsing test with watch

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[10] R. II 31, 32.

[11] R. II 68.

glasses which he performed under the direction of Witness Carroll M. Wakeman, Testing Engineer and Mr. Mallory's superior. The watch glasses used in the test were washed with untreated water, rinsed in distilled water, and then a number of them were rinsed in tap-water and an equal number in water which had been passed through the Evis Water Conditioner.[13] Both sets of glasses were equally water-stained. This test contravened the manufacturer's instruction that water which has been passed through the Evis Water Conditioner should never be mixed with untreated water. When Mr. Wakeman was cross-examined concerning this test, the performance of which he had outlined and directed, he said it "was of no concern" to him how the glasses were washed, and that "we didn't place any particular confidence in the test."[13]

[Commission] Witness Leo Benezra testified to a similar test, in which he used water glasses, as follows:[14]

A. The rinsing test was very simple. I actually washed four identical glasses, or eight identical glasses in a solution of warm water and soap, and rinsed four of them with Evis and four of them with controlled.

Then I hung them up to drain and dry, and I numbered with a wax pencil and asked two other people to pick and examine these glasses for drain streaks, and they actually picked for the dirtiest ones, two of the Evis and two of the control, and the cleanest ones, two of the Evis and two of the control.

Q. Did you observe the results of those?

A. I did.

Q. Did you detect any difference between those rinsed in the Evis and those in the control water?

A. No difference.

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[13] R. II 141–144.

[13] R. II 185–190; 214–216.

[14] R. II 557, 561, 562.

Following the above, the Hearing Examiner observed: [15]

> It should be observed that these tests, like those previously considered with respect to Issue 3, relative to the removal of unpleasant odors, are laboratory tests rather than practical tests. In a home in which an Evis Water Conditioner has been installed according to the manufacturer's directions, dishes would be both washed and rinsed in Evis-treated water; they would not be washed in untreated water and then rinsed in Evis-treated water. As in the tests relating to odor-elimination, in testing for water stains Respondents' directions for the installation of the Evis Water Conditioner were ignored, and the observation hereinabove set forth on this point under Issue 3 is equally applicable here.

On the issue that the Evis Water Conditioner will not prevent or remove scale in boilers, water heaters, pipes, shower nozzles, or other parts of a water system, the Hearing Examiner commented: [16]

> It should be observed that no evidence was presented in support of the above allegation as to boilers, shower nozzles, or other parts of a water system, all of the evidence being with respect to scale in water heaters and pipes. Witness Merrell described the test he performed in order to determine whether the Evis Water Conditioner would "remove old scale throughout the system", as follows: [Then followed a description of the test. The Hearing Examiner commented:]
>
> A number of the manufacturer's instructions relative to the installation of the Evis Water Conditioner were not observed. On cross-examination Witness Merrell was asked the question, "In any event, on the basis of your prior

[15] P. 2d of Initial Decision after remand.

[16] Pages 24 and 25 of Initial Decision after remand.

testimony, I take it that if those instructions, in your opinion, were unimportant in these tests, you would feel that you could ignore them in making these tests anyhow—", to which he replied, "With this device, yes." [17]

The Hearing Examiner continued: [18]

> * * * Witnesses Mallory and Wakeman described a scale test conducted by them at the Los Angeles Harbor Station to determine the relative amount of scale that would be deposited in new copper pipes by water which had passed through the Evis Water Conditioner and by water which had not been so treated. They concluded that there was practically no difference.
>
> Their testimony on cross-examination revealed that the manufacturer's instructions for the installation of the Evis unit were not complied with in a number of particulars, including the requirement that electrical conduits be kept away from the piping system in which the Evis unit is installed. Not only was this instruction ignored, but an electrical circuit was wrapped around the pipe through which the Evis-treated water was flowing for the purpose of heating it. * * *
>
> Witness deBussieres performed a scale test similar to the one described above, in which he heated tap-water, and water that had passed through an Evis Water Conditioner, until both samples had evaporated, leaving "dry scale". Concerning such scale, the Evis literature states:
>
> "A dry scale is nothing more than a residue after its water carrier has evaporated to dryness. * * * Hard water, zeolite-softened water,

[17] R. II 33.

[18] Pages 25 and 26 of Initial Decision after remand.

phosphate-softened water and even EVIS-ized water cannot escape leaving such dry deposits."

Similarly, Commission's Exhibit 31 points out that one of the "Misguided Tests" procedures is "boiling water samples down to dry total dissolved solids—there is no change in total dissolved solids." Witness deBussieres admitted that if the Respondents do not claim either to add anything to or take anything from the water, he wouldn't expect to find any change as a result of his test. Concerning the instructions of the manufacturer for installing the Evis Water Conditioner, he testified: [19]

"* * * We didn't pay any attention to such instructions", and that he made no effort to determine whether the unit was "properly installed". He further testified:

"It would not have made any difference what the instructions were."

On this question of observance or failure of observance of manufacturer's instructions as to installations, tests, and use of the Evis device, respondent makes no contention that the installations and tests of its experts were made and carried on in accordance with the manufacturer's instructions. It attempts to meet this issue be depreciating the value and importance of the instructions. The Commission states in its brief (p. 32):

> The principal thrust of petitioners' contention is directed against the alleged failure of the scientists to observe installation instructions and against the alleged irrelevance of the tests and experiments carried out by these Commission witnesses. Yet the very standards which petitioners invoke in support of their argument were not observed in a large number of installations which their consumer witnesses described

[19] R. II 483.

as successful. In order fully to show the weakness of the assertions regarding the importance of these instructions, we shall briefly discuss them.

The Commission's determination of this case largely based on "tests of experts" not following the instructions of the manufacturer in conducting their tests, is indeed something less than a reliance upon substantial evidence and was obviously unfair to the manufacturer. That it was unfair is supported by the testimony of a Commission witness, Carroll M. Wakeman, a testing engineer employed by City of Los Angeles Harbor Department, who in testifying on behalf of the Commission, was asked.[20]

> Q. If, in fact, Mr. Wakeman, the manufacturer of the Evis Water Conditioner had specified instructions as to the manner in which the Evis should be installed, and the installation which you made in your laboratory completely ignored, and in many instances was contrary to those instructions, would you feel that you had given the product a fair test?
>
> A. I would not.
>
> Q. So that in the instant case, if it can be demonstrated that the product was incorrectly installed, the tests which have been presented here this morning, both by yourself and by Mr. Mallory, would not in any way be conclusive, is that correct?
>
> A. That is right.

THE SO-CALLED ADMISSION

The Commission erred in considering a statement of counsel as an admission that 3,000 other users, had they been called to the stand, would have testified that Evis was a failure. The statement was considered as if

[20] R. II 202, 203.

it were a declaration of counsel standing alone, but a reading of the colloquy accompanying it indicates that it only was intended to convey the thought by counsel that of 100,000 users, he would concede that possibly 3,000 would be found who would testify that the water conditioner brought unsatisfactory results. The colloquy between Mr. Downs, for the Commission, and Mr. Michael, for the petitioners, came in the course of a hearing before Hearing Examiner Lipscomb at Washington, D.C., December 12, 1955.

At the beginning of the hearing, Mr. Michael, counsel for the petitioners, stated that he had asked for the hearing for the purpose of ascertaining whether a few decisions or agreements could be arrived at which would expedite the case. He referred to conversations and negotiations with counsel for the Commission with that object in view. Interrupting an argument of Mr. Downs, Mr. Michael said:[21]

> Out of those discussions developed the fact that Mr. Downs contemplates, when the respondents rest their case, scheduling further hearings in the different places in the country to present what he considers rebuttal testimony. It is my understanding from my discussions with him that that rebuttal testimony is going to take the form of calling your witness[es] whose installations of the Evis Water Conditioner have been unsuccessful. For the purpose of trying to arrive at an early termination and some agreed settlement of the further hearings, I told Mr. Downs that I had no doubt but what he could produce such witnesses and that I did not feel that such witness[es] could testify to anything that was not already in the record.
>
> I pointed out to him that at the outset and I wish to reaffirm now, that I feel that legally such offer of testimony on rebuttal would be

[21] R. V 3731, 3732.

> improper and I wish to argue that matter to Your Honor in a moment.
>
> But for the purpose of trying to reach some agreement I was willing to make the concession that undoubtedly such witness[es] could be found and they would so testify. * * *

Then, pointing out that no such agreement or arrangement had been arrived at, he continued: [22]

> For that reason we were unable to reach a final agreement. So there has been no agreement reached and I am here this morning to make an offer to rest, a conditional offer, condition 1, the Government resting or in the alternative upon the hearing examiner ruling on a motion, an alternative motion I am about to make namely the propriety of such rebuttal testimony.

Then Mr. Michael referred to authorities in support of his motion and contention that the proposed testimony of witnesses showing failure was not proper rebuttal.

Further in his argument, Mr. Michael called attention to two types of evidence which the Commission might have offered to support its charges that Evis will not perform as advertised and thereby injure the public. He referred to the opinion or expert testimony, and testimony of various members of the public who had installed and used the conditioner but did not get results that the advertising claimed for the device. He pointed out that the Commission elected to take only the opinion or expert evidence and called no "user witnesses." His point was that the Commission put on half of their case at the beginning and wanted to put on half of their case as rebuttal at the end. Mr. Michael added: [23]

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[22] R. V 3732.

[23] R. V 3751, 3752.

Finally I want to suggest that in this particular case, the evidence which counsel supporting the complaint proposes to offer is entirely unnecessary. His case in chief has proved, through his witnesses that there are a hundred thousand, roughly there were a hundred thousand witnesses sold at the time that reference was called. It was Mr. Voorheis or Mr. Wells. He has also proved by his own exhibits that the respondents have never claimed that the product works in every instance.

He has proved by his own exhibits that the national average of success has been in the order of 97 percent.

Our own witnesses which we called in our case, the respondents' witnesses have frankly conceded that it does not work in every case. The testimony of our distributors has shown that something in the order of 3 percent of the instances, the particular water, the type of installation, the particular electrolysis problem, the grounding problem is such that we have not had success.

Taking that record, then as it now exists, a fair conclusion would be that there must be some 3,000 units throughout the United States that have not worked satisfactorily out of a hundred thousand.

Now we have not disputed that fact in the record to date. We have come out and supported that conclusion with our own witnesses.

We don't feel that that is critical to that case. We feel that a product of this type [with] 97 percent success average with a hundred thousand units throughout the country demonstrates the merit of the product.

We feel that 3 percent is nothing more or less than what you would find for a national product on almost any product. What does counsel supporting the complaint propose to do? Is he going to add anything to the record that is not already there?

He is going to go out and call five witnesses, ten, 20, a hundred, suppose he calls a hundred. What has he proved? He has proved that he has brought in a hundred out of this potential 3,000 witnesses to testify that in their particular instances the product did not work. Has he said anything more? Has he proved anything more than what is already in the record?

I submit he has not. And I submit it would be a tremendous waste of time and expense both to the Commission and to the respondents under those circumstances to require us to hold further hearings over a long period of time to take such testimony.

That is where we hung up, if I may use that expression, in our negotiations. I had the feeling that that is the posture of the record.

After further observations of Mr. Michael, Mr. Downs, for the Commission, entered upon his argument and urged that he be permitted to introduce, in rebuttal, witnesses who would testify to unsuccessful experiences with the Evis Conditioner. The Hearing Examiner asked.[24]

Mr. Downs, how many witnesses would you propose to present, more than the 3,000 which were mentioned by counsel for the respondent, which he admits, as I understand, that probably in the neighborhood of 3,000 would admit unsatisfactory use of the Evis?

Mr. Downs. I certainly do not propose to burden the record, the Hearing Examiner, nor the respondents with the tremendous task of calling 3,000 or more witnesses, I think the Hearing Examiner would properly put his foot down long before I reached that number.

But by the same token, Mr. Examiner, I do not concede that the testimony that Mr. Michael has cited here proves that this instrument works 97 percent of the time and that there are

[24] R. V 3757, 3758.

only 3,000 installations that they have made that do not properly function.

Hearing Examiner LIPSCOMB. What is the basis, again if you will please, of the 97 percent?

Mr. DOWNS. That is something that Mr. Michael has cited that at the present moment I cannot put my finger on. If he can I would like to call upon him to set the Hearing Examiner straight.

Mr. MICHAEL. I think I can answer that, sir.

We start out first of all with the testimony of the government witness, either Respondent Wells or Respondent Voorheis to the effect that at the time he testified approximately a hundred thousand units had been sold.

Then following further discussion between the Hearing Examiner and Mr. Michael. Then Mr. Michael resumed:[25]

Mr. MICHAEL. * * * I am satisfied that as a matter of law, that there is good support for that position, but above and beyond that, we have the testimony of respondents' witnesses which have indicated that something on the order of 3 percent of the installations have been unsuccessful.

Applying that 3 percent to the government's own testimony that there have been a hundred thousand units sold, we naturally come up with 3,000 units. I am prepared to say that as far as the respondents are concerned here, the statement in our advertisement we don't quarrel with.

We take the position that they are 97 percent successful. By the same token we are willing to concede that there have been 3 percent unsuccessful.

So far as the record we are in effect conceding that there are something in the order

[25] R. V 3760.

of 3,000 units throughout the country that we have been unable to make work.

More than that I don't think you need to establish that concession.

After extensive discussion between the Hearing Examiner, Mr. Michael, and Mr. Downs, we then have the following: [26]

Mr. MICHAEL. I will say it as frankly and as bluntly as I can that I don't have any doubt in my mind—and as I said at the outset before—we don't claim it works in every case. We concede that 3 percent.

Hearing Examiner LIPSCOMB. At least 3 percent.

Mr. MICHAEL. Have been unsuccessful and there have been a hundred thousand sold. If we wanted to take all the testimony available in the country you could probably find 3,000 witnesses in the country who would say it did not work. The only reservation I make is that by the same token it is our position that if we went to every nook and cranny in the country we would get the other 97,000 and we would both be doing what the record already shows.

I can't say any more than that.

Hearing Examiner LIPSCOMB. One part of your statement is an admission, the other is a self-serving declaration and they would be so regarded.

From all that we have quoted above and more appearing in the record, it is obvious that no admission was intended. It is apparent that all that was intended by Mr. Michael was that out of 100,000 users, probably 3,000 of them would testify as to unsatisfactory results. In view of the circumstances under which it was uttered, both the Commission and the

[26] R. V 3764.

Hearing Examiner were clearly erroneous in emasculating Mr. Michael's statement by taking a portion of it as an admission and disregarding what immediately followed as to the possibility of procuring 97,000 users who would testify as to satisfactory results. The Order of the Commission in this case largely rests upon that error for we have seen the so-called admission was considered an "offset" by the Commission of the testimony of the 91 consumer or user witnesses called by the petitioners; and the so-called admission was given effect by the Commission without any consideration whatever of the possibility that numerous users, if called, may have testified to satisfactory results. There was no such admission by counsel. 31 C.J.S. 1029, § 277, citing *Pulver* v. *Union Inv. Co.*, 8 Cir., 279 F. 699, 705, where the Court said:

> An admission must be certain, consistent and definite. * * * It must be couched in language reasonably capable, without forced or strained construction, to bear the interpretation sought to be placed upon it. Conjectural and suppositious statements are excluded. [Citing cases.]

Therefore, the Commission erred in considering the so-called admission as a refutation of all or of any of the testimony of petitioners' user witnesses.

Petitioners claim error in the holding of the Commission, p. 10, Exhibit E attached to petition, that:

> Finally, we hold that under the circumstances of this case, the respondents were not privileged to stand upon their refusal to disclose the composition of the metal in the Evis Water Conditioner and the claimed special processing thereof as trade secrets; and their failure to introduce the evidence thus within their immediate knowledge and control, if existing anywhere, relative to such factors which might explain the claimed effects of the device on water, is strong con-

> firmation of the charges in the complaint. [Citing *Charles of the Ritz Dist. Corp.* v. *Federal Trade Com'n,* 143 F. 2d 676, 679.]

Mr. Wells was the inventor of the water conditioner. He testified that he was not a chemist and in answer to the question, "Are you an engineer?" he stated, "I have worked at the field of engineering for some twenty years"; he testified that he was not a licensed engineer in the State of California.[27] Mr. Downs, conducting the direct examination of Mr. Wells as an adverse witness, propounded the question:[28]

> Q. Will you explain what it is that this unit does to water to warrant the name "conditioner"?
>
> Mr. MICHAEL. Objection. Before that question is answered, Mr. Examiner, I would like to note at this time an objection to this question and any others that seek to ask the witness to explain any of the secret formula or process by which the Evis Water Conditioner is manufactured.
>
> I have this thought in mind, that there are patent applications filed on the secret processes that are employed by the respondents. Until those applications issue a patent, they have nothing other than the common law of protection of maintaining to themselves the secret processes used, and in the event that the patent applications at any time should be denied, they would still have that common law protection, unless they are required or volunteer to disclose it to the public.
>
> Naturally, if it is disclosed to the public they lose that protection which the law affords them. I have no objection to any interrogation

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[27] R. II 412.

[28] R. II 413.

> of the witness along the lines of the general type of treatment, or the general method by which the product is manufactured, so long as it doesn't invade what is considered by the respondents as the secret processes that are used in the manufacture of the product and its use.

Then Mr. Wells, answering the question, gave as his explanation what warranted the use of the name "conditioner". He answered:[29]

> A. Yes. After the water has passed through the conditioner, there is a change that has taken place and the way that change appears to be exhibited is in the manner in which the water behaves with fine particles and at surfaces, you might say, that what is changed in the water is its behavior at the interface, which applies generally to the contact between a fluid and any other substance.
>
> Q (by Mr. Downs). Now, will you tell us what this interface is?
>
> A. I just explained that this interface is the point of contact between one material and another.
>
> Q. Now, does this make any chemical change in the water?
>
> A. No, sir.
>
> Q. Makes no chemical change?
>
> A. No.
>
> Q. Just a change of the physical, of the behavior, I believe you said?
>
> A. Yes.
>
> Q. Well, now, will you explain the scientific principle by which this behavior, is, this change, this behavior is brought about?
>
> Mr. MICHAEL. I will renew my objection, * * * so that the question is limited so it does not require the witness to divulge any of the secret formula or processes used.

[29] R. II 414–418.

Mr. Downs. I think it is perfectly permissible for the witness to explain the scientific principle by which his instrument works.

Hearing Examiner Lipscomb. I think you are correct in your position. Will you explain the scientific principle upon which your device works?

A. I don't believe that science is prepared to describe very many mechanisms of action, including this. However, we do know this, that by the means employed such as the means we employed in the construction and structure of the metal of our unit we obtained this change in the water. Now, this change, of course, is quite easily noted by very many observations.

Q. And it is the manner in which this unit is constructed that brings about the conditioning of the water; is that correct? * * *

A. The manner in which the metal is processed.

Q. Well, there must be some principle involved there, Mr. Wells?

A. Yes.

Q. Well, we would like to know what principle it is. If it is not scientific, what is the practical principle?

A. The principle being to produce the most favorable metallic structure for the purpose of affecting the water in the desirable manner in which we do. It has been strictly experimental and cut and tried until the correct structure was developed for that purpose.

Q. Well, everything, then, depends upon the structure of the unit; is that correct?

A. Yes.

Q. Do you have a specific formula to be followed in the construction of this unit?

A. I have, yes.

Q. I hand you, Mr. Wells, Commission's Exhibit No. 10, which has been put in evidence

and identified as being one of your units that has been cut in two longitudinally. Will you look at that, please, and see if that is one of the your units?

A. Yes, it appears to be.

Q. I notice that it has on the inside of it what appears to be a vertical post; is that correct?

A. Yes.

Q. Now, is this unit made in one casting or is it made in more than one casting?

* * * * *

A. It is an integral casting, yes.

Q. One integral casting. Now, is this vertical post made of the same elements, the same material as the outer portion of this instrument?

Here Mr. Michael renewed his objection and advised his client that if these questions approach a point where he feels it is invading the secret processes he employs in the manufacture of this product, impinging upon the secret nature of his processes, to so advise the Examiner. Then the witness Wells stated: [30]

The WITNESS. Well, I feel that any further discussion beyond the existence of the integral casting along these lines would lead to divulging material which we don't, which is in the category of a secret process.

After discussion, the Hearing Examiner commented: [31]

Hearing Examiner LIPSCOMB. I think the question could be answered yes or no without invading the trade secrets.

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[30] R. II 419.

[31] R. II 420.

The witness is directed to answer the question.

A. Yes.

* * * * *

Q (by Mr. Downs). What is the formula by which this instrument is cast, Mr. Wells?

Then after objection and argument, the Hearing Examiner said:[32]

> The Hearing Examiner does not wish to embarrass the respondent in any way, but he does not see how the issues of this proceeding can be adjudicated and the allegations determined without an answer to the question which has been propounded. It seems to me that that is essential under the charges of the complaint.
>
> Mr. MICHAEL. Then I will instruct my client to answer the question to the extent that he can do so without disclosing the secret formula that is employed.
>
> A. [to the question: "What is the formula by which this instrument is cast, Mr. Wells?"]. This unit is made of cast iron. You will find in our advertising the reference to the fact that we have cast iron units and we have bronze units. Hence the metallic formulas of cast iron are easily found and known, and likewise the composition in bronze. However, these structural metals which are used are processed for the purpose of producing this effect upon water, and in that respect they are different from ordinary cast iron in the one case, or ordinary bronze in the other case.
>
> Q. (by Mr. Downs). Now, let me see if I understand that, Mr. Wells. You say that the elements contained in the unit are the same elements as found in cast iron, but the processing of it gives it something special, is that correct?
>
> A. That is correct.

[32] R. II 422.

Q. What is this processing that gives it something special?

Mr. Michael then renewed his objection and renewed his instruction to the witness not to disclose any secret formula.

Q. Would a spectrographic or spectro analysis of this instrument disclose all of the elements in it?[33]

A. I would say that a spectro analysis would disclose the fact that this cast iron is cast iron.

Q. Are there any secret elements in this that a spectroscope analysis would not show up?

Then followed objection and discussion; then the question:[34]

Q. Does this special processing add elements to this unit, to this casting?

A. I hesitate to answer that.

Mr. Michael then renewed his objection and again instructed the witness as before.

Hearing Examiner LIPSCOMB. I think the answer would not disclose such a secret process, the secret of the process. Therefore, the witness is directed to answer the question.

* * * * *

A. Yes.

Mr. MICHAEL. You mean, are there elements in this casting that you won't find in cast iron, is that it?

Mr. DOWNS. He has referred to a special processing of this casting, and the question was, in that processing does he add elements to it not found in ordinary cast iron.

Hearing Examiner LIPSCOMB. He answered "Yes."

Q. (by Mr. Downs). You do add an element or more?

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[33] R. II 423.

[34] R. II 425.

A. Yes.

Q. What elements are those?

Mr. MICHAEL. That is objected to, if the Examiner please, on the grounds previously stated regarding the naming of the elements as essential to the establishment of the identity of the product.

* * * * *

Hearing Examiner LIPSCOMB. Let us have the particular question read, please.

(Question read.)

Hearing Examiner LIPSCOMB. What elements are added to the cast iron?

The witness is instructed to answer the question.

Mr. MICHAEL. I am afraid, with all due respect to the Examiner and counsel, that if the witness feels the answering of that question would disclose the secret process involved, I advise him, as his counsel, not to answer the question.

A. Accordingly, that question shall not be answered.

Hearing Examiner LIPSCOMB. At the present time.

The WITNESS. At no time.

The reasons for the refusal of Mr. Wells to disclose the Evis method of processing metal are apparent from the above quotations from his testimony. If applications for patent were pending, and there is no contention that they were not, the witness and counsel had reason to fear that public disclosure of secret processing or metal composition would render such secrets public property. Such secret processing is protected by rules of practice in patent cases. 37 C.F.R. § 1.14. And in contested cases in the patent office, a witness may not be held in contempt for refusing to disclose any secret matter except upon appropriate order of the court which issued the sub-

poena. 35 U.S.C.A. § 24. It is therefore apparent that the "refusal" on the part of the inventor Wells to disclose the composition of the metal in the water conditioner, under the circumstances as shown above, cannot be the basis of an inference or presumption that an answer to the question propounded would support the allegation of the complaint that the Evis Water Conditioner is not made of a specially processed metal, or support any other charge made in the complaint.

In 8 Wigmore on Evidence, 3d Ed. 1940, p. 156, § 2212, the author states:

> In a day of prolific industrial invention and active economic competition, it may be of extraordinary consequence to the master of an industry that his process be kept unknown from his competitors, and that the duty of a witness be not allowed to become by indirection the means of ruining an honest and profitable enterprise. This risk, and the necessity of guarding against it, may extend not merely to the chemical and physical composition of substances employed, and to the mechanical structure of tools and machines, but also to such other facts of a possibly private nature as the names of customers, the subjects and amounts of expense, and the like.
>
> Accordingly, there ought to be and there is, in some degree, a recognition of the privilege not to disclose that class of facts which, for lack of a better term, have come to be known as trade secrets.

In Charles of the Ritz Dist. Corp. v. Federal Trade Com'n, 2 Cir., 143 F. 2d 676, 678, cited by the Commission, the Court said:

> [2–4] * * * Two medical experts, one a leading dermatologist, testified for the Commission; and both affirmatively stated that there was nothing known to medical science which could

> bring about such results. There was no testimony to the contrary; but petitioner asserts that, since neither expert had ever used Rejuvenescence Cream or knew what it contained —petitioner being unwilling to reveal its secret formula—their testimony was not the substantial evidence necessary to support the final findings and order below. Despite their lack of familiarity with petitioner's product, however, the general medical and pharmacological knowledge of the doctors qualified them to testify as to the lack of therapeutic value of the cream. Citing cases. Further, petitioner was not privileged, under the circumstances, to stand upon its refusal to disclose the true formula of its preparation as a trade secret, Coca-Cola Co. v. Joseph C. Wirthman Drug Co., 8 Cir., 48 F. 2d 743, 747; 8 Wigmore on Evidence, 3d Ed. 1940, § 2212; and its failure to introduce evidence thus within its immediate knowledge and control, if existing anywhere, of the rejuvenating constituents and therapeutic effect of its preparation is strong confirmation of the Commission's charges.

Unlike the Ritz case, there is evidence here contrary to the testimony of the experts. Here we have the testimony of 91 user witnesses as to favorable results from use of the Evis Water Conditioner. And further, it does not appear from a reading of the Ritz case that any application for patent was pending or that there existed any other plausible reasons for withholding the so-called secrets of the formula.

Referring again to the holding of the Commission (p. 10 of Exhibit E attached to petition), to the effect that the refusal of petitioners to disclose the composition of the metal of the Evis Water Conditioner and the claimed special processing thereof is strong confirmation of the charges in the complaint, and to the authorities cited in support of that contention

(Charles of the Ritz Dist. Corp. v. Federal Trade Com'n, supra), we note that the Commission's conception of the rule does not consider the qualification of adequate explanation, and a reading of the Ritz case does not disclose any excuse or reason given for the failure to disclose. The rule is stated in the article on Evidence, 31 C.J.S. § 156, p. 851, as follows:

> An unfavorable inference may result from the unexplained failure of a party to produce documentary or other real evidence.

Here a reasonable and adequate explanation for the refusal to disclose was given. And, furthermore, the question of whether the Evis Water Conditioner is made of a specially processed metal was rendered irrelevant and immaterial by the Commission itself and by its finding No. 5 has been removed from consideration in this case. Among other things, the finding states:

> Accordingly, the foregoing statements and representations are false, misleading and deceptive with the exception of the representation that the Evis Water Conditioner is made of a specially processed metal, as to which representation the allegation in the complaint has not been proved.

In determining whether there is substantial evidence in this record supporting the Commission's decision, we must eliminate from our consideration the above described so-called admission and the inference drawn as in support of the complaint by the Commission by reason of the refusal to disclose the processing and composition of the metal in the Evis Water Conditioner. We are left then with the opinions of the experts as the only evidence in the record tending to support the findings and conclusions of the Commission, and, as we have seen, those opinions

were the results of tests made in disregard of the instructions of the manufacturer as to tests and as to installation of Evis units; and, as we have hereinabove pointed out, such tests in themselves and standing alone cannot be considered as substantial evidence in support of the complaint. The Commission in its brief recognizes, and it appears from the record, that 91 witnesses testified on behalf of petitioners that they obtained beneficial results from the use of Evis pipe.[35]

The Commission took the position that the so-called admission that "* * * 3,000 other users, had they been called to the stand, would have testified that Evis was a failure, so that the statements of petitioners' witnesses would have been more than offset. * * *" As there was no such admission, one of the Commission's purported reasons for discarding and ignoring the testimony of petitioners' 91 user witnesses is extinguished. The Commission, continuing its argument (pp. 10 and 11 of its brief), claims that it "was eminently justified in resting its decision upon the scientific evidence and in holding that the Evis pipe has none of the effects claimed by petitioners."

Vacu-Matic Carburetor Co. v. Federal Trade Com'n. 7 Cir., 157 F. 2d 711, is cited to support a Commission contention that "* * * the scientific testimony presented to the Commission stands uncontradicted by any other scientific testimony regarding the effectiveness of the Evis pipe. Thus, this is not a case in which the Commission was confronted with a conflict of views of scientists and the problem of resolving such conflict." In that case, the Court of Appeals said:

> Briefly, a number of witnesses who had purchased and used petitioner's device testified to a marked increase in the saving of gasoline. Petitioner also introduced some so-called ex-

[35] Respondent's Brief, pp. 10, 24.

> pert testimony to the same effect. On the other hand, the Commission introduced no testimony from any purchaser and user of petitioner's device who testified to the contrary, notwithstanding the fact that more than 200,000 had been sold to the purchasing public prior to 1940. The Commission in support of its case offered the testimony of a number of highly trained and qualified experts who had made every recognized test and who uniformly testified in substance that there was no merit in petitioner's device.

The experts here did not make "every recognized test." They ignored the manufacturer's instructions as to the testing of its product. Our attention is not called to any apparent obstacle preventing the following of the manufacturer's instructions and no reason is given for the failure to heed them. Why the experts here did not follow instructions does not appear but the persistent disregard of the instructions weakens and in great measure nullifies the value of the Commission's scientific evidence. Such failure to follow instructions was obviously unfair.

The Hearing Examiner, in each of his Initial Decisions, referring to evidence presented by respondents, commented:[36]

> As previously stated, Respondents presented one hundred witnesses, ninety-two of whom were users of the Evis Water Conditioner in many types of practical installations, including industrial plants, lumber mills, public buildings, hospitals, supermarkets, laundries, cleaning shops, schools, ocean-going vessels, oil fields, department stores, dairies, nurseries, ranches, apartment buildings and private homes. Each user-witness testified to one or more benefits

[36] First Initial Decision, pp. 33, 34; and Initial Decision after Remand, pp. 35, 36.

obtained from the use of the Evis Water Conditioner. Each such witness also testified that he had been faced with critical water problems in the operation of various types of equipment and water systems, and that the use of the Evis unit had substantially alleviated such problems, with substantial savings to him in manpower, cleaning and repair costs, fuel and power bills and so forth.

Many of these witnesses were not merely consumers, but were licensed professional engineers or operating engineers with long practical experience in the operation and maintenance of various types of water-using equipment and water systems and the problems incident thereto. Many of them were directly responsible for the proper, efficient and economical operation of equipment depending upon a water supply. None of the witnesses professed to understand the theory upon which the Evis Water Conditioner operates. Most of them stated that they were skeptical of the device prior to its installation in their water system. Some of the witnesses purchased the device only upon the Respondents' money-back guarantee, and paid for it only after it had proven itself to their satisfaction. A number of the witnesses testified that they had made parallel practical tests in the use of the Evis Water Conditioner, in which one part of their equipment was supplied with Evis-treated water at the same time another part was supplied with untreated water.

This Court is not barred from setting aside the Commission's decision, and we may do so on the ground that we cannot conscientiously find that the evidence supporting that decision is substantial, and we may take into account whatever in the record fairly detracts from the weight of the evidence which underlies the agency order and is opposed to the agency's view.

Carter Products, Inc. v. F.T.C., 9 Cir., 268 F. 2d 461, 493.

The Commission erred in disregarding the testimony of the user witnesses.

We cannot sustain the findings of the Commission; they are unsupported by substantial evidence.

With the exception of that portion thereof dismissing the complaint as to respondent Joseph T. Voorheis, the Order of the Federal Trade Commission is set aside.

APPENDIX B

UNITED SATES OF AMERICA BEFORE FEDERAL TRADE COMMISSION

COMMISSIONERS: John W. Gwynne, Chairman, Robert T. Secrest, Sigurd Anderson, William C. Kern, Edward T. Tait.

Docket No. 6168

In the matter of Evis Manufacturing Company, a corporation, and Joseph T. Voorheis and Arthur N. Wells, individually and as officers of said corporation.

FINDINGS AS TO THE FACTS, CONCLUSION AND ORDER

Pursuant to the provisions of the Federal Trade Commission Act, the Federal Trade Commission, on February 5, 1954, issued and subsequently served upon respondents, Evis Manufacturing Company, a corporation, and Joseph T. Voorheis and Arthur N. Wells, individually and as officers of said corporation, its complaint, charging said respondents with unfair methods of competition and unfair and deceptive acts and practices in commerce in the sale of a device for the conditioning of water, in violation of the provisions of the Federal Trade Commission Act.

Thereafter, on April 12, 1954, respondents submitted their answer to the complaint, denying the principal charges thereof and challenging certain of the interpretations of their advertisements contained therein.

Hearings were held in due course. Evidence was received in support of and in opposition to the allegations of the complaint. The hearing examiner filed

his first initial decision on April 27, 1956, in which he ordered the complaint dismissed on the ground that the allegations thereof were not supported by reliable, probative and substantial evidence. The Commission, having heard the appeal of counsel in support of the complaint, including oral argument, vacated the aforesaid initial decision and remanded the proceeding to the hearing examiner for the reception of evidence of further scientific tests of the Evis Water Conditioner. The examiner, after taking such evidence, filed a second initial decision on June 30, 1958, again ordering the complaint dismissed.

Within the time permitted by the Commission's Rules of Practice, counsel in support of the complaint filed an appeal from the initial decision of June 30, 1958, and, the Commission, after considering said appeal, respondents' brief in opposition thereto, the oral argument on this appeal, and the entire record herein, rendered its decision granting the appeal and vacating and setting aside the initial decision.

Thereafter, this matter came on for final consideration by the Commission, and the Commission, being now fully advised in the premises, makes the following findings as to the facts, conclusions drawn therefrom, and order, which, together with the aforesaid decision on the appeal, shall be in lieu of the initial decision of the hearing examiner.

FINDINGS AS TO THE FACTS

1. The corporate respondent, Evis Manufacturing Company, is a corporation organized, existing and doing business under and by virtue of the laws of the State of California, with its office and principal place of business at 40 Boardman Place, San Francisco, California.

The individual respondent, Joseph T. Voorheis, was president of the respondent corporation at the time of the issuance of the complaint but is now deceased. Individual respondent, Arthur N. Wells, is vice-president of the respondent corporation, and has formulated, directed and controlled the policies and practices thereof.

2. The respondents for more than one year last past have been engaged in offering for sale, selling and distributing, directly to users and through retail distributors, a product designated by them as the "Evis Water Conditioner". Respondents at all times mentioned herein have maintained a substantial course of trade therein in commerce among and between the various states of the United States and in the District of Columbia.

In the course and conduct of such business, respondents have been in substantial competition in commerce with other corporations and with partnerships and individuals engaged in the sale and distribution of the various types of products intended for similar purposes.

3. In the course and conduct of their business, and for the purpose of inducing the purchase of their product, respondents have disseminated and caused to be disseminated advertisements in newspapers, magazines, leaflets, circulars and other advertising media circulated among prospective purchasers of their product in the various states of the United States and in the District of Columbia. Among and typical, but not all inclusive, of the statements and representations made in such advertisements and so published and circulated are the following:

> The Special Processed Cast Metal of the Evis Conditioner imparts a continuous catalytic effect on water, water solids and entrained

gases. This catalytic correction changes the physical behavior of water in many beneficial ways.

At long last! The real answer to your costly HARD WATER PROBLEM.

New home water conditioner makes any ordinary water behave "softer".

The amazing NEW EVIS WATER CONDITIONER * * * that makes hard water feel, taste, and act softer—without chemicals—without destroying natural minerals * * * that removes unpleasant odors and flavors * * * removes old scale and prevents new scale * * * saves fuel * * * that gives silky-smooth quality to water for hair, bath, dishes, laundry, car wash * * * that improves coffee and other food flavors.

Makes Even the Hardest Water Behave "Tame"!

Makes Better Tasting Water * * * by reducing or often Entirely Eliminating Unpleasant Odors and Flavors (even of chlorinated water).

Pays for itself Surprisingly Quick from Soap and Fuel Savings Alone!

Saves loads of soap.

Treat yourself to the joys of a catalytically corrected Home Water Supply!

Harshness to hands is noticeably reduced

Easily Rinses away Troublesome Soap Scums

Dishes and Glassware Dry Free From Water Stains

Evis-ized Water Gets "More Work" out of soap in most cases

Scale Vanishes from Water Heaters, Pipes and Shower Nozzles

Sanitary Drains Are Freed From Grease Coatings.

Keeps drains and sumps free from scum.

* * * elimination of rust stain and scum.

* * * to eliminate scale and corrosion problems.

Retards pitting of the metal.

Aids operation of base-exchange softeners.

Leach out alkali and salts with EVIS treated water and Mother Nature will do the rest.

Finer Lawns—Fairer Flowers—Fatter Vegetables—Bumper Crops.

Better Growth has been reported for * * * Alfalfa — Cotton — Melons — Berries — Grass—Flowers and many other types of arricultural and orchard products.

The remarkable growth of plants using EVIS-ized water, as against raw water, particularly tomatoes and other potassium hungry plants, would indicate that the EVIS mineral salt stripping action on clay, provides potassium more abundantly to the plant.

EVIS Water Conditioners are being used with amazing results on cotton farms, alfalfa, orchards and in nurseries, greenhouses, and truck farms.

Dense clay structures become fine textured, hard clods and lumps tend to weaken and the soil becomes useful agriculturally.

Improves texture of soil in lawns and gardens.

* * * one gallon of EVIS-ized water will do the job of at least two gallons of raw water; the evaporation rate is materially reduced.

4. Through the use of the foregoing statements and representations, and others of similar import not specifically set out herein, respondents have represented directly and by implication that their product, the "Evis Water Conditioner":

(*a*) is made of a specially processed cast metal and has a catalytic effect on water passing through it which changes the physical behavior of such water in many beneficial ways;

(*b*) will solve hard water problems causing "hard" water to become soft and will make hard water feel, taste and act softer, giving it a silky-smooth quality for hair, bath, dishes,

laundry and car wash without the use of chemicals;

(*c*) will remove and reduce unpleasant odors and flavors in water, making it taste better, and improve the taste of coffee and other foods;

(*d*) will require the use of less soap and will reduce the cost of heating water;

(*e*) will eliminate or reduce the harshness of water to the hands and will cause dishes and glassware to dry without leaving water stains;

(*f*) will remove grease from drains and will prevent and remove scale from boilers, water heaters, pipes, shower nozzles and other parts of a water system;

(*g*) will prevent, reduce and eliminate scum, rust stains and corrosion and retard the pitting of metal;

(*h*) will improve the action of chemicals used for water softening purposes;

(*i*) will leach out alkali and salts in soil, will improve the growth and production of various agricultural and orchard products and plants, and will improve the texture and structure of soil; and

(*j*) will reduce the amount of water required for agricultural irrigation.

5. The record herein contains reliable, probative and substantial evidence, including the opinions of scientific and engineering experts, that the Evis Water Conditioner will not change the physical behavior of water or beneficially affect water passing through it. Accordingly, the foregoing statements and representations are false, misleading and deceptive with the exception of the representation that the Evis Water Conditioner is made of a specially processed metal, as to which representation the allegation in the complaint has not been proved. Otherwise and in truth and in fact respondents' product, the "Evis Water Conditioner":

(*a*) does not change the physical behavior of water passing through it by catalytic effect or otherwise;

(*b*) will not solve hard water problems or cause hard water to become soft or make hard water feel, taste or act softer or give it a silky-smooth quality for hair, bath, dishes, laundry or car wash;

(*c*) will not remove or reduce unpleasant odors or flavors in water or make water taste better, nor will it improve the taste of coffee or other foods;

(*d*) will not reduce the amount of soap used or effect a saving of soap expenses, nor will it effect a saving of fuel expenses for heating water;

(*e*) will not eliminate or reduce the harshness of water to hands or cause dishes or glassware to dry without leaving water stains;

(*f*) will not remove grease from drains or prevent or remove scale in boilers, water heaters, pipes, shower nozzles or other parts of a water system;

(*g*) will not prevent, reduce or eliminate scum, rust stains or corrosion, nor will it retard the pitting of metal;

(*h*) will not improve the action of chemicals used for water softening purposes;

(*i*) will not leach out alkali and salts in soil, improve the growth or production of agricultural or orchard products or plants, nor will it improve the texture or structure of soil;

(*j*) will not reduce the amount of water required for agricultural irrigation;

(*k*) will not have any beneficial effect on water.

6. The use by respondents of the foregoing false, misleading and deceptive statements and representations, and others similar thereto, has had the tendency and capacity to mislead a substantial portion of the purchasing public into the erroneous and mistaken

belief that such statements and representations were true, and to induce a substantial portion of the purchasing public, because of such erroneous and mistaken belief, to purchase respondents' product. As a result thereof substantial trade in commerce has been diverted to respondents from their competitors and injury has been done to competition in commerce among and between the various states of the United States and in the District of Columbia.

CONCLUSION

The acts and practices of respondents, as herein found, have been to the prejudice and injury of the public and of the competitors of respondents, and have constituted unfair methods of competition and unfair and deceptive acts and practices in commerce within the intent of meaning of the Federal Trade Commission Act.

ORDER

IT IS ORDERED that respondent Evis Manufacturing Company, a corporation, and its officers, and respondent Arthur N. Wells, individually and as an officer of said corporation, and said respondents' agents, representatives and employees, directly or through any corporate or other device, in connection with the offering for sale, sale or distribution of their product, known as the "Evis Water Conditioner", or any other product of substantially similar design or construction, whether sold under the same name or under any other name, in commerce, as "commerce" is defined in the Federal Trade Commission Act, do forthwith cease and desist from representing, directly or by implication:

That their said product:

(*a*) has a catalytic effect on water;

(*b*) changes the physical behavior of water;

(*c*) will solve hard water problems;
(*d*) will make hard water soft;
(*e*) will cause hard water to feel, taste or act softer, or have any of the attributes or characteristics of soft water;
(*f*) will remove or reduce unpleasant odors or flavors from water;
(*g*) will make water taste better;
(*h*) will improve the taste of beverages or foods;
(*i*) will require the use of less soap;
(*j*) will reduce the cost of heating water;
(*k*) will eliminate or reduce the harshness of water to the hands;
(*l*) will cause dishes or glassware to dry without leaving water stains;
(*m*) will remove grease;
(*n*) will prevent or remove scale;
(*o*) will prevent, reduce or eliminate scum;
(*p*) will prevent, reduce or eliminate rust stains;
(*q*) will prevent, reduce or eliminate corrosion or retard pitting of metal;
(*r*) will improve the action of chemicals used for water softening purposes;
(*s*) will leach out alkali and salts in soil;
(*t*) will improve the growth or production of agricultural or orchard products or plants;
(*u*) will improve the texture or structure of soil;
(*v*) will reduce the amount of water required for agricultural irrigation;
(*w*) has any beneficial effect upon water.

IT IS FURTHER ORDERED that the complaint be, and it hereby is, dismissed as to individual respondent Joseph T. Voorheis.

IT IS FURTHER ORDERED that respondent, Evis Manufacturing Company, a corporation, and respondent, Arthur N. Wells, individually and as an officer of said corporation, shall, within sixty (60) days after service upon them of this order, file with the Commission

a report, in writing, setting forth in detail the manner and form in which they have complied with the order to cease and desist.

By the Commission, Commissioner Kern not participating.

ROBERT M. PARRISH, *Secretary.*

ISSUED: March 23, 1959.

UNITED STATES OF AMERICA BEFORE FEDERAL TRADE COMMISSION

COMMISSIONERS: John W. Gwynne, Chairman, Robert T. Secrest, Sigurd Anderson, William C. Kern, Edward T. Tait.

Docket No. 6168

In the matter of Evis Manufacturing Company, a corporation, et al.

OPINION OF THE COMMISSION

By ANDERSON, Commissioner:

In this proceeding, which has been brought under Section 5 of the Federal Trade Commission Act, the complaint charges that the "Evis Water Conditioner", a device sold by the respondents, will not have any beneficial effect on water as represented by the respondents in their advertising.

The hearing examiner filed an initial decision in this matter on April 27, 1956, in which he ordered the complaint dismissed. The Commission, having heard the appeal of counsel in support of the complaint from this initial decision, including oral argument, remanded the case to the examiner for the reception of evidence concerning further scientific tests of the Evis Water Conditioner. The examiner, after taking such evidence, filed a second initial decision on June 30, 1958, again ordering the complaint

dismissed. He based his holding on the ground that the disposition of the proceeding must be controlled by the legal principle that when conflicting evidence is in such a state of balance that substantial doubt exists as to the conclusions to be drawn therefrom, the burden of proof has not been sustained, and he who bears that burden must fail. Counsel in support of the complaint has appealed from the initial decision of June 30, 1958, dismissing the complaint.

The general issue to be decided here is whether considering all the evidence of record counsel supporting the complaint has established the allegations of the complaint with substantial, reliable and probative evidence.

The Evis Water Conditioner is a simple appearing device. It is a product of metal construction having the appearance of an over-sized pipe coupling with an interior cross-post integrally cast in place. It is made of cast iron or bronze or similar metals and coated inside and out with zinc galvanizing. The device is intended to be fitted into water systems for the purpose of beneficially treating and conditioning water.

The following are some of the claims that respondents have made for the Evis Water Conditioner in their advertisements:

> The Special Processed Cast Metal of the Evis Conditioner imparts a continuous catalytic effect on water, water solids and entrained gases. This catalytic correction changes the physical behavior of water in many beneficial ways.
>
> The amazing new Evis Water Conditioner * * * that makes hard water feel, taste and act softer—without chemicals—without destroying natural minerals * * * that removes unpleasant odors and flavors * * * removes old scale and prevents new scale * * * saves

fuel * * * that gives silky-smooth quality to water for hair, bath, dishes, laundry, car wash * * * that improves coffee and other food flavors.

Makes Even The Hardest Water Behave "Tame"!

The complaint alleges that the representations contained in these and other advertisements for the Evis Water Conditioner are false, misleading and deceptive because the device will not give the claimed beneficial results.

The usual tests show Evis treated water to be no different from untreated water from the same source. The device allegedly changes something physical in the water, but the record shows that it does not change the usual physical factors like specific gravity, boiling point, viscosity or surface tension. The Evis Water Conditioner is not magnetized or radioactive and it does not contain electrical particles. It makes no chemical change in the water. Arthur N. Wells, the inventor, during his testimony, described the effect of the device in the following words:

> After the water has passed through the conditioner, there is a change that has taken place and the way that change appears to be exhibited is in the manner in which the water behaves with fine particles and at surfaces, you might say, that what is changed in the water is its behavoir in the interface, which applies generally to the contact between a fluid and any other substance.

The effect allegedly produced by the use of the Evis Water Conditioner, according to witness Wells, is the result of the crystalline structure of the device rather than its chemistry. He testified, in effect, that the elements contained in the unit are the same as those found in ordinary cast iron (or ordinary bronze in the

case of the bronze unit), but that special processing somehow adds elements. On the advice of counsel, the witness would disclose neither the process nor the identity of the elements added, contending that this information involves trade secrets. It is not clear from his testimony whether the elements said to be added by the special processing can be detected by spectro analysis.

While the usual laboratory tests will not disclose any effect of the Evis Water Conditioner upon water (or apparently distinguish the metal in the device from other similar metal), the claimed difference in the water can be detected, Mr. Wells testified, along the lines of the phenomenon. This apparently means the observing of the results in a field test under usual operating conditions. A test recommended in respondents' literature is to try the feel of two specimens of dirt or mud, one of which has been mixed with Evis treated water and the other mixed with untreated water. The specimen made with Evis treated water is supposed to feel "smooth, slippery and disintegrated" compared to the other specimen.

Evidence Received in Support of the Complaint

The evidence received in support of the complaint includes a showing that 3,000 installations of the Evis Water Conditioner were failures (by virtue of an admission of counsel), but, more important, a considerable showing in the form of testimony and other evidence covering studies, experiments and tests of the device. With a few exceptions the witnesses testifying for the complaint were men with extensive engineering or scientific backgrounds; they qualify as experts in their respective fields. A wide variety of scientific tests and studies of the Evis Water Conditioner have been made. These include analyses made

of the composition or structure of the device itself as well as tests and experiments on Evis treated water.

Counsel in support of the complaint introduced twenty-one witnesses, other than the individual respondents and an Evis distributor, all of whom gave opinion testimony based upon their education and experience, or general experience, together with experiments and laboratory tests performed with the Evis Water Conditioner.

The witnesses included those who had performed tests of the Evis Water Conditioner for the Department of Water and Power in the City of Los Angeles, The City of Los Angeles Harbor Department, and The Southern California Gas Company. The results of the various experiments and tests so made were all negative, including tests as to whether the device changes the hardness of water, aids in the operation of base exchange softeners, improves the taste or odor of water, removes scale, and otherwise beneficially affects water.

Tests were conducted at the U.S. Department of Agriculture by Dr. Lowell E. Allison, a soil scientist, to determine any effect of Evis treated water on soil properties and plant growth. Dr. Allison's testimony was that he could detect no significant differences between the Evis treated water used and the control water in laboratory experiments and that Evis treated water made no difference on plant life. This highly trained and experienced scientist testified that he saw no value in the Evis treatment; so much so that he would not further pursue the investigation.

Hugo de Bussieres, a chemical engineer of long experience, made a number of experiments with Evis treated water. He testified that he was primarily interested in the "dielectric constant", a measure of the internal molecular structure of a substance, and tested for characteristics of the water which might

change if the dielectric constant changed. He carried out various chemical, spectographic and other tests. His testimony was that there is nothing about the Evis Water Conditioner that would cause fundamental changes in the character of the water.

Dr. George D. Wagner, Jr., Junior Spectroscopist, Washington State College, ran a series of infrared spectro-analyses of Evis treated and non-treated water. Such tests are designed to determine if samples of a compound are identical so far as molecular structures are concerned. Dr. Wagner testified that the tests showed the molecular structures of Evis or non-Evis treated water to be the same.

Various tests and experiments conducted at Washington State College, Division of Industrial Research, some of which were in the laboratory and others on field or practical installations, failed to show that the Evis Water Conditioner was of any value in the treatment of water. Dr. Albrook, Director of Industrial Research, Washington State College, and Dr. Mark F. Adams, a research chemist of the same institution, in effect so testified. The tests made at Washington State were designed to show, among other things, whether the Evis Water Conditioner would change the hardness of water, whether it would affect the formation of scale in coffee makers and whether it would affect the amount of soap used in dishwashers.

Dr. Robert Weast, an associate professor of chemistry, Case Institute of Technology, conducted tests to determine if the Evis Water Conditioner would remove scale from water pipes. He testified that, in his opinion, the unit does not remove scale from previously scaled pipes.

Dr. James Irvin Hoffman, Chief of the Surface Chemistry Section and Assistant Chief of the Chemistry Division of the National Bureau of Standards,

performed tests with the Evis Water Conditioner. He testified that based upon his scientific knowledge and the experience he had had with the Evis Water Conditioner, it could have no effect upon water.

Since the remand of this case, extensive testing of the Evis Water Conditioner was undertaken by the Engineering Experiment Station of the University of Virginia. Dr. Lewis B. Johnson, Jr., and Dr. Robert Gildea, who worked on and were responsible for these experiments, both testified, in substance, that the Evis unit will not alter the characteristics of water and that it will not produce the beneficial effects claimed for it. The evidence so adduced clearly confirms the scientific showing made prior to the remand.

The hearing examiner has given little weight to the evidence received in support of the complaint. In many instances of tests or studies being made, he questions the results because of the doubt raised on cross-examination about whether the Evis unit was properly installed. Apparently, not all of the experimenters followed instructions for installation in every particular. This may have a bearing on the fairness of the tests in some cases, but we do not think that a substantial part of the scientific evidence should be largely discounted for such a reason. Manufacturers' instructions should be followed, of course, to achieve the results claimed for a product, but in this case the "instructions" have varied from time to time and apparently are not all contained in any one document. A step indicated as essential in one instruction sheet, for example, may not even be mentioned in another. Under such circumstances, the failure to follow the omitted instruction should not necessarily put doubt on the experiment. Moreover, respondents' witnesses who testified as to claimed beneficial results, admitted in many instances that no particular instructions were followed. Also, respondents in their literature sug-

gest that Evis treated water can be procured simply by running tap water through the Evis Water Conditioner, the implication being that an elaborate hookup is not essential. In addition, certain of the expert witnesses who had experimented with the Evis Water Conditioner testified that failure to follow detailed instructions would have made no difference in the results. This testimony and the admission of Mr. Wells, in substance, that he had no scientific principle to explain the claimed effect of the Evis device, places on the respondents some burden of showing the necessity for the detailed instructions, and no such showing was made. In view of all these considerations, failure to follow installation instructions in some particulars should not substantially detract, at least in most instances, from the weight of the showing based on the tests and studies.

The scientific evidence and testimony such as that above referred to supports the allegations of the complaint, and it is substantial. This evidence is strong, clear and persuasive. Taken altogether, it would be of compelling significance under any circumstances. Here we have the opinions of men of broad training and experience, which opinions were based on studies in the laboratory and field as well as upon general experience. Their qualifications generally are beyond challenge. The hearing examiner discounts the impact of this body of testimony for various reasons (including the installation question mentioned above), but in most of the cases his reasons do not stand close analysis.

He dismisses Dr. Allison's (U.S. Department of Agriculture) testimony, for example, because the tests on soil were not performed under conditions comparable to those obtaining in practical use, as he found, and because of admitted slight differences in favor of the Evis Water Conditioner. There is no basis for a

conclusion from Dr. Allison's testimony that the differences had any scientific significance. Moreover, there is every indication that Dr. Allison, who tested the Evis Water Conditioner at the request of an Evis representative, knew what he was testing for, in making these experiments and that he did, in fact, give the device a completely fair test. The real substance of his entire testimony is that the Evis Water Conditioner has no value. The examiner erred, we think, in holding that such does not constitute probative evidence on the issues in this proceeding.

Another example of the examiner's rejection of highly significant evidence concerns the experiments conducted by Dr. George D. Wagner, Jr., of Washington State College. These experiments were of the greatest importance. Dr. Wagner's analysis by infrared spectrogram disclosed that the molecular configuration of Evis treated and non-Evis treated water were identical. It is apparently this characteristic of the water, if any that is or should be changed if there is any effect to be obtained in the Evis treatment, yet the tests showed no difference. The hearing examiner, however, found that the cross-examination vitiates the basis on which Dr. Wagner's conclusions rest, nullifying the persuasive force of such conclusions. This evaluation of the testimony, we think, is entirely erroneous. The hearing examiner refers to the cross-examination of Dr. Wagner in which the witness admitted that his spectrograms would reveal "very little difference" between a compound in suspension in water, the same compound in solution in water and the same compound in the colloidal state in water. This is true, if important, but Dr. Wagner also said that he doubted you would ever find the compound in solution one time and in suspension another. He testified: "I have never heard of

such a thing." Moreover, the respondents' claims for Evis treated water apparently are not based on any contention that the state of the compounds in such water differs in these respects from the state of the compounds in non-Evis treated water; thus, the fact that the spectrogram may not reveal such differences does not appear to be important. For about the same reason, there is no apparent significance to the fact that the infrared examination will not reveal certain types of compounds. The examiner also makes the observation that the tests were made on water in the static state rather than the dynamic. Here again, this would not seem to be of any significance. Evis treated water, for example, is represented as being effective in the washing of clothes and in such a case the water is static in the sense that it is not moving through a pipe. In our opinion, the testimony of Dr. Wagner is probative and reliable evidence and entitled to substantial weight.

Dr. James Hoffman of the National Bureau of Standards testified that based upon his scientific knowledge and the experience he had had with the Evis Water Conditioner, it could have no effect upon water. The examiner found, however, that the probative value of Dr. Hoffman's testimony on direct is lessened because he did not preclude the possibility, at some future date, of a change being effected in the physical behavior of water, in a water system, by contact at the interface with a specially processed metal, by means of the energy inherent in such a system. He held that the change which respondents claim to have effected in the behavior of water by passage through their device has not been proven impossible. This, we think, is much too high a standard of proof. Dr. Hoffman has clearly testified that the Evis Water Conditioner will not beneficially affect water. To the

extent that he may have admitted the possibility of any claimed effect, it was under the qualification that it would be beyond his comprehension if it could be done. He testified on the basis of present day knowledge and his experience with the Evis device. In our view, his testimony should not suffer merely because, as a man of science, he admits the possibility of an occurrence, however remote.

The complaint contains the general allegation that, contrary to respondents' representations, the Evis Water Conditioner is not made of a specially processed metal and it does not change the physical behavior of water passing through it by catalytic effect or otherwise. In our opinion, counsel supporting the complaint has failed to prove that the Evis device is not made of a specially processed metal. A number of witnesses testified to the effect that analyses showed that the cast iron Evis Water Conditioner was substantially the same as ordinary cast iron. From the record it is not clear, however, whether it follows from this that special processing was not used. But this is of small moment. The essence of the general allegation is that the Evis Water Conditioner, special processing or not, will not change the physical behavior of water passing through it. Expert witnesses testified in substance that hard water, or water loaded with minerals, and the objectionable effect of such water, could not be changed except by chemical means. As the examiner even has observed, if such opinion be correct, the Evis device, which admittedly causes no chemical change in the water passing through it, would be worthless. As heretofore indicated, we give much more weight to the opinions expressed by the experts than has the examiner. We believe that there is substantial evidence to support the general allegation above referred to except as to special processing of the

metal. This evidence in turn likewise supports the specific allegations of the complaint. In addition there is substantial evidence otherwise to support most if not all of the specific allegations.

It is obvious that counsel supporting the complaint has made a showing with reliable, substantial and probative evidence that the Evis Water Conditioner will not perform as claimed. We do not think that counsel has shown it is impossible for the Evis unit to produce beneficial results, nor do we think such proof, if it could ever be made in a case of this nature, is necessary. Not all of the evidence in support of the complaint is strong; not all of it is free from defects. Taken in its entirety, however, it covers the views of many scientific and engineering experts in the various related fields and it is almost wholly adverse to the Evis Water Conditioner. The views expressed were not simply opinions based on general experience alone. In almost every case, experiments or tests were performed. Some were in the laboratory and some involved practical installations. In these circumstances, it is evident that the showing of counsel in support of the complaint must be given substantial weight.

Finally, we hold that under the circumstances of this case, the respondents were not privileged to stand upon their refusal to disclose the composition of the metal in the Evis Water Conditioner and the claimed special processing thereof as trade secrets; and their failure to introduce the evidence thus within their immediate knowledge and control, if existing anywhere, relative to such factors which might explain the claimed effects of the device on water, is strong confirmation of the charges in the complaint. *Charles of the Ritz Dist. Corp.* v. *Federal Trade Commission,* 143 F. 2d 676, 679 (1944).

Respondents' Evidence

Respondents' evidence is almost entirely connected with the testimony of users of the Evis Water Conditioner. Some evidence was introduced by the respondents which was of a scientific nature, but it appears to be of little, if any, significance. Mainly this was testimony taken concerning a series of tests run at Peninsula Laboratories, Mountain View, California. The tests, which included a washing machine experiment, were supervised by Howard Franz, a research chemist and a partner in Peninsula Laboratories, and conducted by Chemists Gloria Sirine and Walter Hasbrook, Jr. The testimony relating to these tests was clearly inconclusive as a scientific matter. Mr. Franz, for example, would not testify that any of the results observed were caused by the Evis unit, nor would the witnesses Sirine and Hasbrook, Jr., do so.

In any event, respondents do not press their cause on the basis of any scientific evidence. They apparently concede that the effect resulting in the benefits to be derived from the use of their device, if any, is a scientific mystery. Respondents' evidence is largely that of the user testimony and the related exhibits.

An examination of this evidence shows that a number of users, including operating engineers and others, believed that they obtained beneficial results from the use of the Evis Water Conditioner. While a number of the witnesses testified about observing results in parallel practical experiments, it nevertheless appears that the observations were not of tests under scientifically controlled conditions. Any one of a number of factors not connected with the Evis Water Conditioner could have caused any differences which may have been noted. This evidence, while relevant, must be considered and weighed in the light

of all the surrounding circumstances. In some cases, such testimony may be more important than in others, particularly where there is scientific evidence of considerable weight on both sides of the question. *Cf. In the Matter of Pioneers, Inc.,* Docket No. 6190 (decided May 16, 1956). That is not the situation in this proceeding. The scientific evidence in the record almost entirely supports the allegations of the complaint. The user evidence, in these circumstances, is of relatively little value.

In conclusion, we hold that the record contains reliable, probative and substantial evidence supporting the allegations of the complaint with the exception heretofore noted and that it was error for the hearing examiner to dismiss the complaint.

The appeal of counsel in support of the complaint is granted. Accordingly, the initial decision is vacated and set aside, and our findings as to the facts, made on the whole record including the initial decision, and conclusion and order to cease and desist, are issuing in lieu thereof.

Commissioner Kern did not participate in the decision of this matter.

MARCH 23, 1959.

APPENDIX C

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

No. 16481

Evis Manufacturing Company a corporation and Arthur N. Wells, Petitioners

v.

Federal Trade Commission, Respondent

DECREE

On Petition for Review of an Order of the Federal Trade Commission.

This cause came on to be heard on the transcript of record from the Federal Trade Commission. The Court heard argument of respective counsel on July 14, 1960, and has considered the briefs and transcript of record filed in this cause.

On Consideration Whereof, and pursuant to the opinion this day rendered and filed, IT IS ORDERED, ADJUDGED AND DECREED by this Court that the order of the said Federal Trade Commission of March 23, 1959, be, and hereby is set aside, except as to that portion thereof which dismissed the complaint as to respondent Joseph T. Voorheis.

(Endorsed) Judgment,
Filed and entered March 5, 1961,
FRANK H. SCHMID, *Clerk.*

U.S. GOVERNMENT PRINTING OFFICE: 1961

JUL 19 1961
JAMES R. BROWNING, Clerk

In the Supreme Court
OF THE
United States

OCTOBER TERM, 1960

No. 161

FEDERAL TRADE COMMISSION, *Petitioner*

v.

EVIS MANUFACTURING CO., et al.

BRIEF FOR RESPONDENTS IN OPPOSITION

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BRIEF FOR RESPONDENTS IN OPPOSITION

OPINIONS BELOW

The opinion of the Court of Appeals is reported at 287 F.2d 831. The opinion of the Federal Trade Commission is printed in Appendix B to the Petition for a Writ of Certiorari, p. 64.

PRELIMINARY STATEMENT

The sole ground upon which the Commission seeks review in this case is its assertion that the case presents the "important question" "whether the Federal Trade Commission, in determining the capacities of a product, may accept expert scientific testimony, after making its

own appraisal of the criticisms of the experts' tests, or must be governed by the testimony of satisfied consumers" (Pet. pp. 9-10). The Commission cites *Federal Trade Commission v. Sewell* (1957) 353 U.S. 969, and even suggests that on the authority of that case this Court may deem it appropriate to grant the writ in this case and reverse without more.

Most respectfully we submit that the statement of the case in the petition for certiorari which purportedly presents the above question is scanty, inaccurate and misleading; that the question posed by the Commission is not presented on this record; that the *Sewell* case is inapplicable; and that, for the reasons hereinafter stated, no grounds for a writ exist.

STATEMENT OF THE CASE

A. Proceedings below.

This proceeding was brought in 1954 by the Federal Trade Commission to enjoin alleged misrepresentations in connection with the sale of a water conditioning unit invented by respondent Wells and manufactured and sold by respondent Evis Manufacturing Company (R. I, 1). Hearings commenced on May 12, 1954, and ended four years later, in April, 1958. The testimony of 124 witnesses was taken in Los Angeles, San Francisco and Fresno, California; Pullman, Tacoma and Seattle, Washington; Portland, Oregon; Cleveland, Ohio; Washington, D.C.; Dallas, Texas; and Charlottesville, Virginia. Sixty-eight exhibits were introduced. The transcript comprises 4,000 pages.

Twice the Hearing Examiner, who heard the witnesses and judged their credibility, held that the Commission had failed to sustain the allegations of the complaint (R. I, 512, 692). Twice the Commission reversed. It held on the first appeal that further evidence should be taken (R. I, 654); on the second, that the findings of the Hearing Examiner should be disregarded and a cease and desist order should issue (R. I, 797-817). On review, the Court of Appeals reversed, holding that there is no substantial evidence to support the decision of the Commission.

B. The facts.

Prior to 1952 respondent Wells, after many years of experimentation (R. II, 416), invented a specially processed metal casting, designed to be fitted into water systems for the purpose of beneficially affecting water.

The unit was made of specially processed metal with inclusions not ordinarily present in cast iron (R. I, 422, 425-426). While the complaint charged that it was false to represent that the unit was made of a specially processed metal, both the Hearing Examiner and the Commission held that this charge had not been sustained (R. I, 698, 802). The Commission's own witnesses, after spectrographic and photomicrographic analyses, testified that the metal was specially processed and contained inclusions not ordinarily found in cast iron (R. II, 93, 479, 929, 942).

In 1952 respondent Evis Manufacturing Company was organized to manufacture and market the unit (R. II, 412). The venture was an immediate success. Sales in 1953, the first full year of operation, were approximately $1,250,000 (R. I, 333). All units were sold with a money

back guarantee (R. IV, 2916, 3148; and see for example, CX 33, R. VI, 902). Numerous units were installed on a free trial basis (R. III, 1812, 2120, 2135, 2165; R. IV, 2275, 2320, 2707; R. V, 3469).

The company's customers included the most responsible and informed buyers in America: the United States Government,[1] State schools, colleges and institutions,[2] steamship companies,[3] oil well drilling companies,[4] major oil companies,[5] lumber and plywood mills,[6] department stores,[7] laundries,[8] restaurants,[9] and numerous other substantial businesses and manufacturing plants.[10]

Without exception every witness who had used the unit in the normal, practical installations for which it was intended testified to beneficial results. Ninety-two witnesses testified concerning 255 installations. These witnesses included trained representatives of leading industries and institutions: air conditioning and refrigera-

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[1]R.IV, 2325-2340; 2677-2687; 2688-2703; 2704-2718.

[2]R.III, 2218-2233; R.IV, 2838-2849; 3366-3390; R.V, 3460-3493.

[3]R.IV, 2388-2412; 2637-2663; 2672-2677; 2748-2763; 2892-2906; 3168-3178; 3392-3397; 3397-3405; R.VI, 1026-1062; 1066-1099; 1100-1129; 1131-1161; see also RX 48, R.VI, 1013-1017.

[4]R.III, 2033-2060; R.V 3409-3436; 3436-3450; 3518-3529, 3543-3558; 3559-3563, 3583-3611; 3705-3723.

[5]R.III, 2145-2155.

[6]R.III, 1963-1973; R.IV, 3101-3118; 3119-3132; 3133-3142; 3178-3190; 3220-3226; 3237-3252.

[7]R.III, 1839-1891; 1976-2011.

[8]R.IV, 2598-2620; 3190-3202; 3329-3338.

[9]R.III, 1804-1839; 1839-1891; 1976-2011.

[10]R.III, 1892-1930; 2090-2114; 2157-2192; 2268-2291; R.VI, 2551-2559; 2764-2772; 3077-3089; R.V, 3530-3543; 3564-3581; 3686-3704.

tion,[11] newspaper,[12] canning,[13] meat packing,[14] marine repair,[15] lumber and lumber products,[16] petroleum,[17] restaurant,[18] school,[19] department store,[20] supermarket,[21] fish processing,[22] hotel,[23] ranching and farming,[24] nursery,[25] bottling[26] and tool manufacturing,[27] as well as private homes and apartment houses.[28]

In the steamship industry alone the testimony showed that 281 Evis units (all but a few of which are in addition to the 255 units mentioned above) were in use on 245 vessels of 76 shipping concerns, including such internationally known companies as American Mail Line, American President Lines, Isthmian Steamship Company, Luckenbach Steamship Company, Moore-McCormack Lines, Inc., Matson Navigation Company, Pacific Far East Lines, Inc.,

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[11]R.III. 1931-1963; R.IV. 2268-2291.

[12]R.IV. 2292-2296, 2307-2325; 2296-2307.

[13]R.III. 2157-2192.

[14]R.III. 1892-1930; R.V. 3612-3625.

[15]R.IV. 2346-2360.

[16]R.III. 1963-1973; R.IV. 3101-3118; 3119-3132; 3133-3142; 3178-3190; 3220-3226; 3237-3252.

[17]R.III. 2033-2060; R.V. 3409-3436; 3436-3450; 3518-3529, 3543-3558; 3559-3563, 3583-3611; 3643-3673; 3705-3723.

[18]R.III. 1804-1839; 1839-1891; 1976-2011.

[19]R.III. 2218-2233; R.IV. 2838-2849; 3366-3390; R.V. 3460-3493.

[20]R.III. 1839-1891; 1976-2011.

[21]R.IV. 2551-2559.

[22]R.IV. 2474-2481; 3352-3362.

[23]R.V. 3493-3502; 3502-3516.

[24]R.III. 1732-1777; 1804-1839; 2011-2032; 2114-2129, 2138-2145.

[25]R.III. 2069-2090; 2234-2242; 2243-2253; 2253-2266.

[26]R.III. 2129-2137.

[27]R.III. 2060-2067.

[28]R.III. 1777-1804; 2011-2032; 2033-2060; 2069-2090; 2253-2266; R.IV. 2875-2891; R.V. 3675-3685.

Pacific Transport Lines, Pope & Talbot, Inc., Rotterdam-Lloyd Line, Swedish American Line, Transoceanic Marine Corporation, United Fruit Company and Waterman Steamship Corporation (R. VI, 1013-1017). Many of these companies equipped their vessels only after they had first established to their own satisfaction, through actual shipboard trial, that the Evis unit produced the results for which they were looking (R. IV, 2443). United Fruit Company has installations on 25 vessels, Waterman Steamship Corporation on 30 vessels, Luckenbach Steamship Company on 14 vessels, and the Military Sea Transport Service of the United States Government on 4 vessels (R. VI, 1013-1017).

Experienced operating engineers testified concerning carefully controlled parallel tests in which an Evis unit was installed on one piece of equipment and other identical or similar equipment was left unchanged. In each instance, marked differences were evident.[29]

These witnesses were not the ignorant and the gullible. With few exceptions they were licensed professional or operating engineers with experienced backgrounds in operating water systems and related equipment. In every sense they were experts in their fields. They testified to objective, physical, observable results (removal or prevention of scale in water systems, etc.) as to which no possible

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[29]The Post Office and Courthouse Building in Fresno, California (R.IV, 2325-2340; 2677-2687); the plant of the Central Valley Ice Company in Fresno, California (R.IV, 2268-2291); the Fresno Bee Building, Fresno, California (R.IV, 2292-2296; 2307-2325; 2296-2307); the Bridgford Packing Company plant at Anaheim, California (R.III, 1892-1930); the G. W. Hunae Company cannery at Turlock, California (R.III, 2177-2192).

element of judgment or mistake could enter. They were not contradicted; they were not impeached. They represented all segments of the economy, including Federal and State agencies and scores of nationally known concerns. Testimony of successful performance came from representatives of such informed buyers and users as the United States Post Office Department (R. IV, 2325-2340; 2677-2687), the United States Navy Department (R. IV, 2688-2703; 2704-2718), the General Services Administration of the United States Government (R. IV, 2677-2687), G. W. Hume Company (R. III, 2157-2192), Bridgford Packing Company (R. III, 1892-1930), American Rock Wool Corporation (R. IV, 3077-3089), the Fresno Bee (R. IV, 2292-2296; 2307-2325; 2296-2307), Central Valley Ice Company (R. IV, 2268-2291), North Pacific Plywood Company (R. IV, 3220-3226), St. Joseph's Hospital (R. IV, 3339-3349), Knott's Berry Farm (R. III, 1804-1839), Union Ice Company (R. III, 1931-1963), Buffum's Department Store (R. III, 1839-1891), The Harris Company (R. III, 1976-2011), Pacific Western Oil Corporation (the producing company for Tidewater Associated Oil Company) (R. III, 2145-2155), Three States Natural Gas Company (R. V, 3564-3581), Rowan Oil Company (R. V, 3705-3723), Delta Gulf Drilling Company (R. V, 3436-3450), Bercut-Richards Packing Company (R. IV, 2536-2551), Roy Guffy Drilling Co. (R. V, 3409-3436), Helmerich & Payne, Inc. (R. V, 3518-3529; 3543-3558), Pope & Talbot, Inc. (R. IV, 2388-2412; 3397-3405; R. VI, 1131-1161), Union Oil Company (R. VI, 1066-1099), American President Lines (R. IV, 2748-2763), Transoceanic Marine Corporation (R. IV, 2637-2663), Waterman Corporation of California (R. IV,

2672-2677; R. VI, 1026-1062), American Mail Line (R. IV, 3392-3397), United Fruit Company (R. VI, 1066-1099), and Nehi Bottling Co. (R. III, 2129-2137).

In the very courthouse in which the Hearing Examiner in this case took testimony, in Fresno, California, Evis units were installed and were in operation. Mr. Shepard, Chief of the Construction and Supervision Branch, Public Building Service, General Services Administration of the United States, who is responsible for the mechanical equipment in all Federally owned and operated buildings in California, Nevada, Arizona and Hawaii (R. IV, 2678), and his Superintending Engineer, Mr. Crosby, testified (R. IV, 2680-2683) concerning parallel tests on the cooling system of the courthouse which demonstrated the outstanding performance of the Evis unit in preventing the formation of scale. On the basis of these tests Mr. Shepard ordered installations in other Federal buildings in California and Arizona where they operated with equal success in solving water problems which had been encountered.

A truly dramatic instance of the effect of the Evis unit upon laundry operations was that described by the manager of the Rainier State School at Buckley, Washington. There, mentally retarded children who worked in the laundry were "trained to put just a measured amount of soap in a washing machine, [so that] once they have acquired that habit, * * * they will do it almost automatically" (R. IV, 3383). On the morning after the Evis unit was installed the washers were "boiling soap suds all over the place" before the operator could reduce the amount of soap used (R. IV, 3382).

As opposed to the foregoing the Commission did not introduce a single word of testimony concerning the Evis unit in actual operation. Instead it relied entirely upon the testimony of so-called expert witnesses who based their opinions upon laboratory experiments. Five of these experts[30] testified to spectrographic and photomicrographic tests of the metal in the Evis unit. Since these tests were addressed entirely to the metal's physical composition, and since both the Hearing Examiner and the Commission held that this testimony failed to sustain the charge that the unit is not made of specially processed metal, their testimony is now irrelevant.

The remaining witnesses (with the exception noted at p. 23, infra), testified concerning laboratory tests each had made upon water purportedly[31] treated by the Evis unit. The tests were wholly artificial, either having no relevance to any claim made by petitioners, or conducted under laboratory conditions so alien to actual operating conditions as to have no probative value (see pp. 10-23, infra).

Further, these "experts," as the Commission concedes, failed to install and use the Evis unit in accordance with the manufacturer's instructions. Their failure in this regard was not harmless oversight, but so vital as to render their opinions, as the Court of Appeals held, of no evidentiary value (see pp. 24-29, infra). Indeed, in

[30]Messrs. Abbitt, McBurney, Corfield, Czyzewski and Uman (R. II, 705, 358, 362, 925, 89).

[31]Since, as the court below held and as we point out hereafter, the experts did not properly install the Evis units, there is no evidence in this record that Evis treated water was in fact used in their experiments.

the only two instances where respondents knew that tests were being conducted and tendered their engineers to advise and assist in the installation and operation of the equipment, the offers were refused (R. II, 813; III, 1266-1267), in one case so contemptuously[32] that the Hearing Examiner held, on the basis of this occurrence and others, that the witness entered upon and conducted his so-called scientific tests with a preconceived opinion that the Evis unit was worthless, that his denial of a prejudgment of the merits was so evasive as to be unworthy of belief, and that "the factual content [of his testimony] is too intermingled and clouded with evasions, qualifications and attempted explanations" to constitute substantial evidence (R. I, 718-719).[33]

One of the numerous instances which illustrates the total unreality of these laboratory tests is the case of Dr. Hoffman of the Bureau of Standards, the Commission's principal witness. Under cross-examination he testified that during his laboratory tests he visited the Experiment Station of the Department of Agriculture at Beltsville, Maryland, and saw an Evis unit in operation (R. III, 1202). When asked whether it was not a fact that the unit was working successfully, he replied (R. III, 1204):

> "I am a little reluctant to go into the installations in another department, if I can avoid it. It does not concern my tests any more than the mere inspection to see whether it was grounded."

[32]Dr. Albrook of Washington State College. See especially R. II, 717-719.

[33]The associate of this witness, Dr. Adams, was relieved by his superior at Washington State College from further investigation of the Evis unit because of his "personal bias in the matter of conducting tests" (Decision of the Hearing Examiner, R.I, 718).

At this point the Hearing Examiner sustained objections to any further questioning of Dr. Hoffman concerning this installation (R. III, 1204-1207). After respondents had made offers of proof, however (R. III, 1207-1208), the Examiner modified his ruling (R. III, 1237) and thereafter Dr. Hoffman testified (R. III, 1339-1340):

"Q. Yesterday there was reference to the installation of the Evis unit at the United States Department of Agriculture Station at Beltsville—do you recall that?

A. I recall it.

Q. You were out there and examined that installation, did you not?

A. I was out there.

Q. You did not see the installation?

A. I saw it, the installation.

Q. There were two evaporator condensers, were there not?

A. There were.

Q. On one of which there was an Evis unit?

A. Yes.

Q. On the other there was not an Evis unit?

A. That is correct.

Q. And you observed, did you, Doctor, that the Evis unit was clean as compared with the non-Evis unit which was scaled?

A. I saw that, yes, sir.

Q. And you were advised, were you not, by the personnel at the station that in the case of the Evis unit they had at that time been able to operate it for eight weeks without cleaning as distinguished from their prior practice of cleaning it every 10 days to 2 weeks?

A. I was not so advised, but * * * I overheard this statement made.

Q. You were present, were you not?
A. I was present."

Dr. Hoffman was then further cross-examined (R. III, 1340-1343):

"Q. Now, Doctor, have you also had an opportunity to personally inspect other installations on United States Government property of Evis units?

A. I was over to the Old Dominion Building, I believe it is called, in Arlington, to see an installation there.

* * * * *

Q. That installation, Doctor, in that did you observe that this cooling unit * * * had de-scaled with the Evis unit?

A. I saw the unit only once. The unit had parts of the pipes where scale had broken off and was lying in the bottom. I know nothing about the history of it or what caused that to fall off. I could not make any positive statements as to the value of the water treatment.

Q. In the course of your inspection at that building did you make inquiry of the operating personnel there as to what the conditions had been before and after the installation of the Evis unit?

A. I forget whether I made any inquiry. I was there mainly to see the grounding system that they were using. * * *

* * * * *

Q. I see. The fact that the unit was de-scaling there and you saw evidence of that in your opinion carried no weight one way or the other, Doctor, is that it?

A. I have to base that—I hope you understand—on the fact that I did not see another one close by under

the same circumstances which did not have an Evis conditioner on it.

Q. All right.

A. I must hold to that."

And yet, as shown above, Dr. Hoffman *did* see two evaporative condensers "close by under the same circumstances" at the Department of Agriculture Station at Beltsville, Maryland, one equipped and the other not equipped with an Evis conditioner. He "observed * * * that the Evis unit was clean as compared with the non-Evis unit which was scaled." He overheard "personnel at the station [say] that in the case of the Evis unit they had at that time been able to operate it for eight weeks without cleaning as distinguished from their prior practice of cleaning it every 10 days to 2 weeks." He disregarded these two installations "close by under the same circumstances" because he was "a little reluctant to go into the installations in another department * * *."

It is of this witness that the Commission, in the decision under review, says (R. I, 811):

> "Dr. James Irvin Hoffman, Chief of the Surface Chemistry Section and Assistant Chief of the Chemistry Division of the National Bureau of Standards * * * testified that based upon his scientific knowledge and the experience he had had with the Evis Water Conditioner, it could have no effect upon water."

The Commission's expert testimony was as follows:

Eight experts made soap hardness or similar tests which proved that Evis treated water did not differ chemically

from untreated water.[34] This proved exactly what respondents have represented. Over and over the Evis literature states that the unit does not change the chemical composition of water (CX 8, R. VI, 827; CX 27, R. VI, 879, 881; CX 31, R. VI, 896, 899). When the testimony of the eighth of these witnesses was offered by the Commission, the Hearing Examiner finally inquired (R. V, 3952):

> "May I ask you, what is the relevancy, since there is no claim of chemical change resulting from the use of an Evis? What is the purpose of showing the chemical analyses?".

Four of the witnesses[35] performed "dry scale" tests, a test similar to putting a teakettle on the stove, boiling it dry and then measuring the solids deposited on its walls. Respondents have never represented that the Evis unit removes solids from water. No water treatment can do this. The function of water treatments is to affect the solids in water, physically or chemically, so that in operation they are flushed out with waste water. The Commission's own witness, Dr. Hoffman of the Bureau of Standards, characterized these dry-scale tests as "irrelevant * * * There was no sense in burdening the hearing with those experiments" (R. III, 1215).

Commission witness Merrell put odor-bearing water in two beakers, added Evis treated water[36] to one and no

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[34]Merrell (R.II, 8), Carty (R.II, 110), Kleiner (R.II, 328), de Bussieres (R.II, 479), Benezra (R.II, 559), Albrook (R.II, 584), Adams (R.II, 846) and Gildea (R.V, 3947-3953).

[35]Mallory (R.II, 135-138), de Bussieres (R.II, 479), Benezra (R.II, 559), and Johnson (R.V, 3793).

[36]See footnote 31, supra, p. 9.

treated water to the other and "sniffed" each sample. He detected no difference (R. II, 15).[37]

The same witness filled one beaker with treated[38] water and one with untreated water, let each stand 30 days, and then noted that each seemed to have the same amount of dust and scum on top (R. II, 15). From this he concluded that the Evis unit does not "keep drains and sumps free from scum." On cross-examination he finally characterized his own experiment as "a very weak test • • • just cooked up to disprove that one statement that was made in the literature" (R. II, 70).

To disprove respondents' claim that the Evis unit "aids operation of base exchange softeners" the same witness passed a little more than 16 quarts of both treated[39] and untreated water over two ounces of ion exchange material and analyzed the water at the conclusion of the experiment (R. II, 12). The experiment took about three hours (R. II, 51). The normal cycle of base exchange softeners in actual operation is from two to four weeks (R. II, 51). Dr. Adams (see footnote 33, supra), testing for the same purpose, dripped water over ion exchange columns for periods ranging from a little over seven hours to 30 hours.

Of these tests the Hearing Examiner said (R. I, 724):

> "Witness Merrell's experiment lasted about three hours, and Witness Adams' tests ranged from 430 minutes (seven hours and ten minutes) to thirty hours. It was shown that the normal operating cycle of a

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[37]In direct violation of respondents' specific instruction not to mix treated and untreated water (CX 31, R.VI, 898).

[38]See footnote 31, supra, p. 9.

[39]See footnote 31, supra, p. 9.

base-exchange softener is at least two to four weeks. It would appear, therefore, that neither experiment was conducted in a manner at all comparable to the practical operation of a base-exchange softener * * *."

Witnesses Mallory and Benezra rinsed glasses in Evis treated[40] and untreated water, let them dry and said they could observe no difference (R. II, 145, 576-577).

Witness de Bussieres found that both treated[41] and untreated water froze at the same temperature; that the conductivity of each was the same (R. II, 478-479). Neither test was shown to have the faintest bearing on any Evis claim or to be related in any way to the performance of the unit in actual operation.

Witness Wagner made infrared spectro-analyses of treated[42] and untreated water, testing for an "alteration in the molecular structure, the geometrical configuration of the molecules" in the water (R. II, 888). His spectrograms showed only the molecular structure of the water and disclosed nothing concerning the solids in it or the form in which they occurred (R. II, 889, 893). His test could have not the slightest relevance to the claims of respondents that the Evis unit affects the solids in water in such a way as to achieve the demonstrated beneficial results.

Dr. Hoffman, to whom we have referred (supra, pp. 10-14), made a surface tension test of treated[43] and untreated water and found no difference. Respondents have

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[40]See footnote 31, supra, p. 9.
[41]See footnote 31, supra, p. 9.
[42]See footnote 31, supra, p. 9.
[43]See footnote 31, supra, p. 9.

never represented that the Evis unit affects the surface tension of water. But Dr. Hoffman sought to relate his test to the representation of respondents that the Evis unit affects the behavior of water at the interface, i.e., its point of contact with metal or other substances. He testified on direct examination (R. III, 1118):

> "A. Any change in the behavior in water at the interface must be accompanied by a change in the surface tension."

The cross-examination of Dr. Hoffman after this categorical statement is illuminating. First, after long, critical and even embarrassing examination, he admitted that his surface tension test had been incorrectly conducted and for that reason "should be summarily discarded as valueless" (R. III, 1360, 1362). He then admitted that in fact the surface tension test was not a conclusive test of "the effect of Evis on water" (R. III, 1369):

> "Q. Do I understand from your testimony that you feel that the tension test is a final and conclusive test as to the possibility of Evis' effect upon water, having in mind that the water as we have just said passes through the pipe and through the Evis is in contact with a solid, whereas on the other hand in the tension test you have the isolated water not being in contact with the pipe or the Evis itself?
>
> * * * * *
>
> A. I would say no."

He then specifically recanted his original testimony (R. III, 1371):

> "Q. * * * [Does] the surface tension test * * * necessarily demonstrate the characteristics of that water when it comes in contact with a solid.
>
> A. Not completely."

And finally he admitted that a change in the physical characteristics of water would not necessarily have to be accompanied by a change in surface tension (R. III, 1312):

> "* * * Let me ask you this. Would a change in the physical characteristics of water, any change, necessarily * * * have to be accompanied by a change in surface tension?
>
> A. No, sir.
>
> Q. In other words, Doctor, there could be some changes in physical properties of water without a corresponding change in surface tension?
>
> A. That is correct."

Further, with reference to respondents' claim that the processing of the Evis unit affects the crystalline structure of the metal, which in turn affects the behavior of water he conceded (R. III, 1315):

> [illegible] that the angle of contact of water may be affected by the crystalline structure of a piece of metal such as brass?
>
> A. Yes, sir.
>
> Q. You know that?
>
> A. Oh, yes.
>
> Q. Are you familiar with the fact that the same is true in the case of iron?
>
> A. I presume it is."

Dr. Allison conducted a number of tests to determine, in his language, "what effect [the Evis unit] had on soil properties and plant growth" (R. II, 236-237). Dr. Allison's records, when produced on cross-examination (R. II, 257-258), showed:

(1) The corn plants irrigated with Evis treated water averaged one inch higher in growth—30 inches as compared to 29 inches (R. II, 289).

(2) In a test to determine the penetration of water into the soil the Evis treated water penetrated to a depth of .114 centimeter as compared with .108 for untreated water (R. II, 267-268).

(3) In a test to determine the effect of water upon the alkalinity of the soil the Evis treated water reduced alkalinity from a pH 9.3 to 8.7, or a difference of .6, while untreated water reduced the alkalinity from 9.3 to 8.9, or a difference of .4. Dr. Allison testified (R. II, 295):

"Q. So the difference in the change in the case of the Evis treated soil was half again as large as the difference in alkalinity of the soil that did not [illegible] d water, is that correct?

A. That is correct [illegible] • • •"

(4) In an electrical [illegible] conductivity test (which discloses the salinity of the soil) the Evis treated water reduced the rate from 3.80 to .99, a difference of 2.81, whereas untreated water reduced the rate from 3.80 to 1.32, a difference of 2.48 (R. II, 298).

(5) In a moisture retention test the soil irrigated with Evis treated water contained 26.0 atmospheres of water compared with 25.6 atmospheres with untreated water. Dr. Allison testified (R. II, 281):

"Q. So that there in the case of the Evas in this particular instance, [illegible] s treated water, it showed a

greater degree of moisture retention than did the untreated water, is that not correct?

A. Well, according to the figures there is a slight difference."

(6) In a test to determine the exchange sodium potential of soil the Evis treated water reduced the potential from 48 to 14, whereas untreated water reduced the potential from 48 to 15. Dr. Allison testified (R. II, 301):

"Q. * * * There is a difference between the rating of 14 in the case of Evis treated water as distinguished from the rating of 15 in the case of untreated water?

A. That is right.

Q. Nevertheless it is a change in a beneficial direction, is it not, doctor?

A. I would say it is a change and in a beneficial direction."

In short, each of these tests performed by Dr. Allison disclosed a beneficial difference in favor of water treated by the Evis unit.

In addition to the foregoing, the Commission introduced testimony of three laboratory tests designed to show that the Evis unit would not remove or prevent scale. Each of these tests is to be compared with actual operating conditions on the oil rigs, steamships, boilers, condensers, refrigerating equipment and other installations where the uncontradicted testimony of experienced engineers and operators incontrovertibly established that the Evis unit under normal field operating conditions did in fact remove scale and prevent its formation (supra, pp. 4-8).

The first of these tests was that of Mr. Merrell, who had "sniffed" the water and detected no difference, and who had admitted that his "test" for the prevention of scum was "just cooked up to deny that one statement" (supra, p. 15). He trickled treated[44] and untreated water through two eight-inch sections of half-inch badly scaled pipe at the rate of a little more than a quart a minute for four weeks. At the conclusion of this "experiment" he weighed each section and found that each had lost one gram (R. II, 16).

Dr. Weast conducted the next experiment in Cleveland. For thirty weeks he flowed, at intervals approximately one hour apart, ten gallons of treated[45] and untreated water through two parallel pipes heavily encrusted with deposits. Five times during the experiment he cut off short sections of pipe, split them longitudinally and photographed them (R. III, 991; CX 51 and 52, 2-13/6168-1 and 2-14/6168-2). He found no observable removal of encrustation. Apart again from the dissimilarity of this experiment to actual operating conditions, and apart from Dr. Weast's failure properly to install the equipment, Dr. Weast readily agreed that the deposits on the pipes with which he experimented were not the scale customarily encountered in water operations, but a mixture of scale and corrosion occasioned by the unusually high oxygen content of the water. Quite frankly he testified (R. III, 1008):

> "Q. Would you say this [deposit on the pipes] was in the category of rust?
>
> A. Yes."

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[44]See footnote 31, supra, p. 9.

[45]See footnote 31, supra, p. 9.

And again (R. III, 1073):

> "Q. And turning back now to the corrosion question I asked you, would your experience here in Cleveland with similar problems lead you to believe that in this case you had primarily a corrosion of pipes as a result of the high oxygen content of the Cleveland water?
>
> A. That is my opinion."

And again (R. III, 1027):

> "Q. Well, now, in the opinion that you rendered to the Hearing Examiner here as to the value of Evis in removing scale, would I be correct in assuming that that opinion was limited exclusively to the—what you have referred to as a 'rusty type of scale'?
>
> A. Yes."

There is no representation anywhere in the Evis literature that the unit will remove encrustations resulting from the corrosion of metals, as distinguished from ordinary scale deposited from the magnesiums, calciums and other solids customarily present in water.

The third test was made by Dr. Hoffman of the Bureau of Standards, to whose experiments we have referred above (supra, pp. 10-18). He took four sections of heavily encrusted pipe 2½ inches long (R. III, 1132, 1231, 1296), baked them in a dry oven at 100° Centigrade for 30 minutes,[46] trickled about half a pint per minute of treated[47] water through three sections, and of untreated water through one section, for a period of 68 days (R. III, 1133),

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[46]A procedure which is quite inexplicable, is hardly to be expected in practical installations, and which made the calcium carbonate in the scale as hard as cement (R.VI, 2977).

[47]See footnote 31, supra, p. 9.

found scale remaining in all four (R. III, 1137) and concluded that the Evis unit will not remove scale.

Finally, the Commission relied on the testimony of Drs. Albrook and Adams at Washington State College. These are the witnesses to whose credibility we already have referred (supra, p. 10). Under their supervision two Evis units were installed on coffee urns serving the students on the Washington State campus. These two urns, plus a third one supplied by chemically treated water, and a fourth one supplied with untreated water, were operated for five and one half months. They were then opened and inspected, and photographs of all four were introduced in evidence (CX 39, R. VI, 916). A mere inspection of these photographs on Commission's Exhibit 39 (pictures 1 and 4 are the Evis treated urns, picture 2 the water softener urn, and picture 3 the untreated urn) shows the extraordinary difference in favor of the Evis treated urns as compared with the untreated urn. It was the attempted explanation of this obvious result by Drs. Albrook and Adams (R. II, 596, 770-771; 851-853; 878), among other things, which led the Hearing Examiner to characterize their testimony as "too much intermingled and clouded with evasions, qualifications and attempted explanations" to constitute substantial evidence (R. I, 719).

ARGUMENT

1. THE TESTIMONY OF THE COMMISSION'S EXPERTS IS UNSUBSTANTIAL BECAUSE IT WAS BASED ON TESTS WHICH WERE CONDUCTED CONTRARY TO THE MANUFACTURER'S INSTRUCTIONS.

This is not a case where the witnesses testified from their own expert knowledge, as for example, where a doctor testifies that a particular nostrum cannot cure cancer or arthritis. This case involves a physical phenomenon—the effect upon the behavior of water by the introduction of the Evis unit into the water system. The experts, conceding the scientific principle that the introduction of a metal into a water system may affect the behavior of water,[18] undertook to test this particular device in the lab-

[18]That the behavior of water may be affected physically by metal, as well as chemically by chemical treatment, was recognized by Commission witness Weast (R. III, 1047-1048):

> "Is it also possible, in your opinion, Doctor, • • • that • • • there may be ways of preventing that corrosion from taking place, • • • by the addition of a third material of some type • • • ?
>
> A. This type of corrosion is controlled by the addition of chemicals which will tie up those ions which might be deposited on the iron to form galvanic cells on the iron.
>
> Q. Now, you are thinking there of the type of chemical treatment of water, as for example, where certain chemicals, phosphates or something of that kind, are actually put into the water in solution in the water?
>
> A. Yes.
>
> Q. Now, turning from that type of treatment, do you know, or do you have any opinion as to whether or not the same type of treatment might be brought about through the use of a metal that would simply, at some point in this water system of ours, be brought into contact with the water, so that you now had, instead of two metals in the water, you had three?
>
> A. Yes • • • This is a possibility."

Another example is the now familiar cathodic treatment of water (R. IV, 2997 et seq.). This method consists essentially of adding to the metal already present in the water system, another metal high on the galvanic series, such as zinc or—now more

oratory to seek to determine whether it had any effect. The testimony of the so-called experts was based upon these experiments and was substantial only to the extent their experiments were valid.

The record is perfectly clear that in their tests the Commission's experts did not install the Evis unit in accordance with the manufacturer's instructions. The Commission, here and in the court below, is compelled so to concede. In an effort to surmount this deficiency in proof, the Commission argues that it was free to find that its experts could disregard the instructions. This position is without merit in principle, is contrary to the testimony of the Commission's own experts, and is completely discredited by the record in this case.

As the Hearing Examiner held (R. I, 710):

> "It seems essential, however, that if a device is to be tested, the manufacturer's directions for the use thereof should be faithfully followed. It seems both unfair to the manufacturer and logically unsound to expect reliable results from an experiment conducted in disregard of the manufacturer's instructions for the proper use of the product being tested."

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commonly—magnesium. Corrosion is the result of electrical action between two metals of different potentials (R. III, 1010, 1021). Such differences may exist within a single casting (R. III, 1010, 1011). The cathodic treatment consists of placing an anode of a chemically more active metal within the water system, so that electrolysis is reversed and, instead of corrosion occurring on the permanent surfaces of the system, the anode itself—appropriately known as the "sacrificial anode"—is gradually disintegrated by the electrical action within the water. When it was suggested, even in recent times, that the mere attaching of pieces of zinc to the stern post of vessels would prevent the hull from corroding, those who advocated this treatment "were certainly held in bad repute * * * by most of the people working in the field" (R. IV, 2997). And yet today this method protects metal from the corrosive effects of water from the family water heater to the locks of the Panama Canal.

Commission witness Wakeman testified (R. II, 202-203):

"Q. If, in fact, Mr. Wakeman, the manufacturer of the Evis Water Conditioner had specified instructions as to the manner in which the Evis should be installed, and the installation which you made in your laboratory completely ignored, and in many instances was contrary to those instructions, would you feel that you had given the product a fair test?

A. I would not.

Q. So that in the instant case, if it can be demonstrated that the product was incorrectly installed, the tests which have been presented here this morning, both by yourself and by Mr. Mallory, would not in any way be conclusive, is that correct?

A. That is right."

And the Commission's principal witness, Dr. Hoffman of the Bureau of Standards, testified (R. III, 1272-1273, 1275):

"Q. * * * Let us assume that a manufacturer comes out with some new product. Let us assume that he has developed an entirely new scientific theory on which his product is based. Let us assume that the scientific world has not yet learned of that theory and has not yet had an opportunity to study it and evaluate it. Let us assume that that product goes out in the market and is used, and let us assume, as the record in this case shows, that in practical installations, that product is 97 per cent successful. Let us assume that the product is then brought to the National Bureau of Standards for testing and evaluating, and let us assume that the manufacturer has certain explicit instructions as to how the product is to be installed and operated.

> Now, when these tests are being conducted, let us assume whoever is conducting them is not familiar with the scientific theory that this inventor has developed. Do you not feel, Doctor, that under those circumstances, in all fairness to the inventor, as well as to yourself and the National Bureau of Standards, that the only reliable way to conduct a fair test would be to carry out to the letter the instructions of the manufacturer, irrespective of what your own opinions might be as to the value of the installation itself?
>
> * * * * * * *
>
> A. I think I will repeat what I said before. If the manufacturer has instructions, since he does not have the knowledge of the theory and I don't, then I believe I had better follow those instructions as nearly as possible as they are given."

Moreover in this case, as the court below pointed out (Pet. pp. 25-26), the testimony clearly shows why it was essential that the instructions be followed if valid results were to be obtained.

One of the important instructions which was disregarded provided for the appropriate grounding of the water system in order to eliminate stray electrical currents. The Evis Manufacturing Company commenced business in 1952. At that time the Evis unit, in the limited areas in which it had been installed, had operated successfully without grounding.

> "* * * we were under the impression * * * that all you had to do was install it in the pipe line, and it would remove the scale and prevent its reformation and in many, many cases that is so, that is true. We have thousands of installations where that is actually the case * * *" (R. IV, 2922).

Accordingly, the manufacturer's first instructions merely provided for fitting the unit into the main water supply line (CX 2, R. VI, 818). As numerous installations were made in different areas, however, difficulties appeared.

> "* * * so the field operators, the men in the field, began investigating these installations and trying to determine what the phenomenon might be that was causing it not to work * * *" (R. IV, 2923).

These investigations disclosed that electrical disturbances in the pipe lines were causing the trouble and that the installation of shunting and grounding wires was necessary to make the unit function (R. IV, 2923-2928, 3146-3147, 3154-3155, 3159-3162). The influence of electrical currents upon the behavior of water, of course, is well known (R. 2999-3000), and it is also known that the effect of these currents varies from place to place, depending upon the physical environment and the installations (R. IV, 2925, 2999-3000).

As the engineers and representatives of Evis Manufacturing Company pooled their knowledge and experience concerning the effect of electrical currents on the Evis unit, the manufacturer amended its instructions to reflect these discoveries. The Installation and Service Bulletin issued by petitioners six months before the institution of these proceedings (RX 34; R. VI, 1009-1012) was prepared at a meeting of approximately 30 representatives of the Company from all parts of the United States, who "pooled all of their knowledge of Evis installation techniques and * * * put it all into that bulletin" (R. IV, 2931). This bulletin was in the hands of the Commission

long before these proceedings were brought, as was also another bulletin issued at about the same time (CX 31, R. VI, 896-900) bearing a stamp showing its receipt by the Bureau of Investigation of the Commission five months before the complaint was filed. These instructions emphasized the necessity for grounding and described in detail how it should be done.

In installing and testing the Evis device the Commission's experts failed to follow these instructions. When the Commission offered in evidence the opinions based upon these experiments it knew that the experiments had been performed upon defective installations. The testimony of one or two of the experts that their results would have been the same if they had properly installed the equipment is, of course, mere conjecture. And the fact that the manufacturer himself had not realized the importance of grounding the equipment until experience had shown the necessity for this procedure cannot make substantial the testimony of the experts who disregarded the instructions in making the tests upon which their opinions were based.

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2. THE TESTIMONY OF THE COMMISSION'S EXPERTS IS UNSUBSTANTIAL BECAUSE IT WAS BASED ON IRRELEVANT TESTS.

The issue in these proceedings was whether the Evis unit has a beneficial effect upon the behavior of water when the unit is used in the practical operations for which it is intended and for which it is sold. The uncontradicted testimony of experienced and credible witnesses established that it does in fact produce this result. The fact

that Dr. Wagner found from his infrared spectro-analyses that the Evis unit produces "no alteration in the molecular structure, the geometric configuration of the molecules" in water (R. I, 813), or that Mr. de Bussieres, "a chemical engineer of long experience" who was interested in the "'dielectric constant,' a measure of the internal molecular structure of a substance," found that the water had not changed in certain characteristics which might change if the dielectric constant changed (R. I, 810), is irrelevant to this issue. Likewise irrelevant are the experiments of Mr. Merrell and Dr. Hoffman for the "removal of scale." These men based their opinions upon experiments in which they trickled a small dribble of water through short lengths of scaled pipe in a laboratory. Such artificial experiments have no relevance to actual operations.

For example, the testimony of experienced engineers established that the Evis unit produced exceptional results in marine evaporators on large ocean-going ships (supra, p. 5). In operation, these evaporators use vast quantities of water and are given massive "blow downs" every few hours. Continuous blow downs are essential to remove the partially evaporated water as its concentration of solids increases. The function of a water conditioner is to keep the solids in the water in suspension so that they will not adhere to the evaporator walls but will be "blown out" with each change of water (R. IV, 2646):

> "We shut off the steam supply, secured the evaporator, filled the evaporator up with water, opened up the steam supply, raised the pressure inside the shell, opened up the skin valve, the blow down valve on the

evaporator. The pressure blew the water out over the side, removing sludge and so forth."

Mr. O'Connell, one of the nation's most distinguished experts and consultants in the field of water uses and control (R. IV, 2956-2960), pointed out that every significant development in water treatment has been discovered in the field, and that the efficacy of water treatments cannot be determined in a laboratory (R. IV, 2992):

> "The concentrations of the material which we were dealing with are so small, and in the case of the treatment of surface waters so relatively variable that it is almost impossible to duplicate in a laboratory field conditions."

No one of the laboratory experiments by the Commission's experts resembled in the slightest measure the actual operating conditions under which the Evis unit was designed to function and did function. They were wholly artificial. The conclusions based upon them are irrelevant. They do not constitute substantial evidence.

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3. THE OPINION OF THE COMMISSION'S EXPERTS, BASED UPON IMPROPERLY CONDUCTED AND IRRELEVANT TESTS, IS UNSUBSTANTIAL FOR THE FURTHER REASON THAT IT IS CONTRARY TO PHYSICAL FACTS.

The basic error of the Commission is that it is seeking to apply to this case the principle that *subjective* "user testimonials," in the patent medicine and appliance field, do not furnish substantial evidence as against credible expert opinion. The *Sewell* case,[19] relied upon by the Com-

[19] *Sewell v. Federal Trade Commission*, 9 Cir. 1956, 240 F.2d 228.

mission, which involved a foot pad said to relieve aches and pains and lessen fatigue, is such a case. In contrast, the witnesses in this case were not from "that vast multitude which includes the ignorant, the unthinking and the credulous,"[50] who feel that their skin has been rejuvenated by the cream of Charles of the Ritz,[51] or who think that they find relief in patent medicines for hair and scalp,[52] or rheumatism,[53] or cancer, leprosy and malaria,[54] or in medical appliances.[55] No witness in the case testified to subjective feelings. On the contrary, as experts in the field of water uses—trained, intelligent, credible men—they testified to physical facts, objectively observable. They *saw* scale removed from evaporators, boilers and numerous other types of equipment; they *saw* this equipment operate without the formation of scale (supra, pp. 4-8).

An expert opinion that a phenomenon which in fact occurs cannot occur is not substantial evidence. Similarly, testimony that a laboratory test on a few liters of water shows no change in molecular structure or in dielectric constant or in conductivity or in surface tension, etc., is not substantial evidence that beneficial effects cannot

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[50] *Charles of the Ritz Dist. Corp. v. Federal Trade Com'n* (2 Cir. 1944) 143 F.2d 676, 679.

[51] Idem.

[52] *United States v. 503½ Dozen Bottles, etc.* (W.D. Mo. 1944) 54 F.Supp. 759.

[53] *Rhodes Pharmacal Co., Inc., et al.* (1952) 49 F.T.C. 263, 284.

[54] *Koch Laboratories, Inc., et al.* (1951) 48 F.T.C. 234, 249.

[55] *The Dobbs Truss Co., Inc., et al.* (1952) 48 F.T.C. 1090, 1113 [Docket No. 5808]; *Sewell v. Federal Trade Commission* (9 Cir. 1956) 240 F.2d 228.

occur in industrial and othe practical installations when in fact beneficial effects in ich installations *do* occur.[36]

"Opinion evidence in dict with the physical facts * * * is not substantial idence * * *.

Where physical fact * * * the facts must govern. contradict expert opinions, not prevail over such estimony of an expert can court nor jury is perm hysical facts: and neither contradicted. * * * ted to credit testimony so

Evidence contradicted the physical facts is entitled to no credence" (*State of Washington v. United States* (9 Cir. 1954) 21 2d 33, 43).[37]

As the court said in *Dea h v. United States* (9 Cir. 1935) 74 F.2d 619, a case in lving a claim of total and permanent disability (p. 622

"How can it be said t he could not work, when in fact he did work?"

The Commission's attitude summed up in a statement at page 50 of its brief in the urt below:

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[36] Also, as the court pointed in *Navajo Freight Lines v.* *Mahaffy* (10 Cir. 1949) 174 F.2 05, 310.

"The party offering evid of out-of-court experiments must lay a proper foundat by showing a similarity of circumstances and con ition * * * Evidence of this k * * tion * * *. In many instances should be received with cautions under which the expera slight change in the condiresult: as to wholly destroy it is made will so distort the it harmful, rather than help value as evidence, and make

[37] And see:

Differential Steel Car Co. Ja Donald (6 Cir. 1950) 180 F.2d 260, 268;

Galloway v. United States ir. 1942) 130 F.2d 467, 471;

United States v. Thornbo Cir. 1940) 111 F.2d 278, 280.

> "Yet no one can be so credulous as to believe that a scientific invention cannot be proved by scientific tests."

This arbitrary position is not only rebutted by numerous occurrences within common knowledge, but is discredited by the testimony in this very record. To take but one example, the threshold treatment of water simply cannot be scientifically explained (see R. IV, 3001-3003); it operates directly contrary to all known laws of chemistry. And this was established not only by respondents' witnesses, but by the Commission's own expert (R. III, 1053):

> "A. Well, this is in the threshold treatment of water with hexametaphosphate, where the stoichiometric amount of hexametaphosphate required to prevent the precipitation of calcium carbonate does not follow the laws of chemistry which involve prime valence forces."

CONCLUSION.

The "important question" the Commission says is presented by this case (Pet., p. 9) does not exist. No substantial "expert scientific testimony" was introduced by the Commission. The *Sewell* case, which involved subjective "satisfied customer" evidence concerning a medical appliance, is not in point. The Court of Appeals did not, as the Commission contends "make its own appraisal of the testimony" (Pet., p. 13). It limited its review strictly to what the Commission says is its proper function, namely "whether the Commission's appraisal of testimony has substantial support in the record" (Pet., p. 13). It found, and the record supports it—not only for

the reasons it gave but for the others discussed above—that no substantial evidence supports the Commission's findings. On this issue, nothing but a question of fact on a 4,000-page record exists. It presents no issue for this Court.

The petition for a writ of certiorari should be denied.

Dated: San Francisco, California,
July 17, 1961.

Respectfully submitted,

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FEDERAL TRADE COMMISSION, PETITIONER

v.

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ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

MEMORANDUM IN REPLY TO RESPONDENTS' BRIEF IN OPPOSITION

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The position of the Federal Trade Commission, that the court of appeals ignored established principles governing judicial review of Commission orders by making its own appraisal of the facts, is fully set out in the petition for a writ of certiorari. While we believe that the essential facts are adequately set forth in the petition, respondents' brief in opposition, by picking and choosing from the interstices of a lengthy record, may give an unwarranted impression of the character of the evidence before the Commis-

sion.[1] This reply brief is being filed to correct any misapprehensions that may arise.

1. Respondents omit any reference to the scant and totally inconclusive scientific evidence of expert witnesses offered in support of the broad claims made for the Evis device (see Pet. App. B, p. 76).[2] Instead, by repeatedly characterizing their user witnesses as "experienced operating engineers" and "licensed professionals" who "testified concerning carefully controlled parallel tests" (Br. in Opp., p. 6), respondents imply that what in fact was ordinary consumer testimony should be ascribed the same value as expert evidence based upon scientific investigation.

It may be that respondents' user witnesses were not confined to the "ignorant and the gullible" (*ibid.*). But, contrary to respondents' implications, not one of these "experts in the field of water uses" (Br. in Opp., p. 32) was either qualified before the Commission as an expert witness, or was able to explain how or why the Evis device performed its allegedly beneficial function. While some of the user witnesses testified to observing beneficial results in parallel

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[1] The physical exhibits that were part of the record before the Commission and the court of appeals have been filed with the Clerk of this Court. They include an Evis conditioner, divided in half to show its cross-sections (Comm. Ex. 10).

[2] As the Commission pointed out (Pet., App. B, p. 76): "* * * [R]espondents do not press their cause on the basis of any scientific evidence. They apparently concede that the effect resulting in the benefits to be derived from the use of their device, if any, is a scientific mystery."

tests and experiments, the Commission found (Pet. App. B, p. 76) "that the observations were not of tests under scientifically controlled conditions. Any one of a number of factors not connected with the Evis Water Conditioner could have caused any differences which may have been noted."

2. To overcome the overwhelming preponderance of the scientific evidence in support of the complaint, respondents, aside from asserting that "the threshold treatment of water simply cannot be scientifically explained" (Br. in Opp., p. 34), attack the tests conducted by the Commission's expert witnesses as "wholly artificial" (Br. in Opp., pp. 9, 31) and claim that there was not a "word of any testimony concerning the Evis unit in actual operation" (*ibid*). The record demonstrates, and the Commission found, that this simply is not the case. While most of the Commission's expert witnesses stated their opinion that nothing known to water science could possibly support a conclusion that any beneficial result could be derived from the Evis conditioner (see, *e.g.*, II, 482; III, 1116-1117, 1334, 1168), every one of these 21 highly qualified experts testified with respect to tests and experiments carried out with the Evis pipe in "actual operation." Contrary to respondents' suggestions (Br. in Opp., 22, 30), these tests did not involve the mere "trickl[ing]" or "dribbl[ing]" of a few litres of water through a rusty pipe, but were standard water treatment tests conducted either in the laboratory under highly controlled testing conditions or

in practical installations in the field.[3] Thus, the Department of Water and Power in the City of Los Angeles, apparently at the request of a representative of the corporate respondent (II, 23-24), ran extensive experiments with the Evis device in actual operation. These included tests to determine whether the pipe could in any way change the hardness of water, aid in the operation of base exchange softeners, improve the taste or odor of water, prevent the formation of scum, or remove scale (II, 12, 14-15, 15-16, 16-17, 109-112). These tests were conducted by water experts under controlled conditions with the Evis unit installed strictly in accordance with the instructions received with it (II, 2-3, 15-16, 28, 30, 32, 53, 85). They were totally negative in result.

Apparently, respondents do not dispute that the soil tests carried out by Dr. Allison at the United States Salinity Laboratory, at the request of an Evis representative (II, 240-241), involved the "actual operation" of the device, since they maintain (Br. in opp., p. 20) that "each of these tests * * * disclosed a beneficial difference in favor of water treated by the Evis Unit." The records produced by this witness did show, in some but not all instances, changes "in a beneficial direction" (II, 281, 301). But, as the

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[3] Witness Benezra, a chemist with 14 years experience (II, 557-558), installed an Evis pipe, under the direction of respondent Wells, on a main water inlet to the witness' home. He could find "* * * no difference" caused by the installation (II, 569). Yet respondents represented that the "silky-smooth quality" given to water by the Evis device could be immediately detected (VI, 845).

witness testified (II, 303), "these differences that have been brought out are minor" and (II, 294) were "within the limits of error of the measurements." Dr. Allison concluded (II, 238): "We could detect no *significant* differences between the normal water that we used as the control and Evis treated water" (emphasis added).[4]

Respondents attempt to discredit the testimony of Dr. James I. Hoffman, a National Bureau of Standards chemist with wide experience in the field of water treatment (III, 1115-1116), by choosing from his more than 200 pages of testimony certain allegedly "embarrassing" statements (Br. in Opp., p. 17). The record shows that Dr. Hoffman testified that he observed an Evis unit installed on an evaporator condensor at the Beltsville Experiment Station in Maryland and that the Evis unit appeared to be free from scale. However, respondents omit the most crucial aspect of this testimony. Dr. Hoffman stated (III, 1341): "I know nothing about the history of it or what caused that [scale] to fall off. I could not make any positive statements as to the value of the water treatment." In response to the question whether he had been advised by station personnel

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[4] Respondents contend (Br. in Opp., p. 30) that Dr. Wagner's infrared spectroanalyses, showing that the Evis device produced "no alteration in the molecular structure" of treated water, is totally irrelevant to the claims of beneficial results for the device. The argument overlooks the fact that respondents represented that "Evis always performs at its top efficiency because the delicate change of molecular organization established by EVIS-izing is then freed from the interference of electric currents" (RX 34; VI, 1011).

that the Evis conditioner was the cause of the descaling, the witness replied (III, 1340): "I was not so advised, but I heard under questioning by your representatives—I overheard this statement made." Dr. Hoffman's testimony that what he saw or heard at the Experiment Station was inconclusive and in his opinion did not require any modification of his testimony adverse to the Evis claims (III, 1341-1342) was never rebutted. Respondents made no effort to call as witnesses any of the personnel at the station who presumably could have testified from first-hand knowledge.[5]

3. Respondents also renew their attack on the alleged failure of the Commission's expert witnesses to follow the manufacturer's testing and installation instructions. While this phase of the case has been fully discussed in the petition, respondents now place particular emphasis on the alleged necessity "for appropriate grounding of the water system in order to eliminate stray electrical currents" (Br. in Opp., p. 27). The short answer is that the latest Evis instruction booklet, issued in 1956 (CX 57; VI, 954-

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[5] With respect to the surface tension tests conducted along with other experiments by Dr. Hoffman, respondents claim (Br. in Opp., p. 17) that the witness testified the tests had been incorrectly conducted and "should be summarily discarded" and that "he then specifically recanted his original testimony". Neither of these statements has any validity. Dr. Hoffman never stated that the surface tension tests standing alone would be conclusive (III, 1124-1125, 1319). He never suggested that they were unreliably conducted or should be discarded, or otherwise recanted his original testimony (III, 1358, 1360, 1362-1363, 1371).

955), omits any reference to the alleged grounding requirements to which its instructions had referred for a brief period in 1953 (CX 31c; VI, 898-900). Under such circumstances, one can scarcely credit the suggestion that grounding was a vital requirement.

4. Finally, respondents contend that the present proceeding is distinguishable from the typical case involving frauds or impositions on the consuming public, on the ground that here the user witnesses testified that they "*saw* scale removed from evaporators, boilers and numerous other types of equipment" (Br. in Opp., p. 32). The good faith of respondents' lay witnesses is not disputed. However, as the Commission pointed out (Pet., App. B, p. 76), "[a]ny one of a number of factors not connected with the Evis Water Conditioner could have caused any differences which may have been noted." Thus, respondents' contention (Br. in Opp., p. 32) that "[a]n expert opinion that a phenomenon which in fact occurs cannot occur is not substantial evidence" begs the basic question, namely, whether it is the Commission, rather than the reviewing court, that is to weigh the evidence, both scientific and lay, concerning the occurrence of the claimed phenomena. As shown in the petition, the court improperly substi-

tuted its judgment for that of the Commission on an evidentiary question committed to the agency.

Respectfully submitted,

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